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ABSTRACT

The Resource Cost Model (RCM) is a resource management system that combines the technical advantages of sophisticated computer simulation software with the practical benefits of group decision making to provide detailed information about educational program costs. The first section of this document introduces the conceptual framework underlying the development and use of the RCM and includes illustrations of the kinds of information produced by the program: summary cost data; total and average costs of educational services; resource costs and quantities by program, service, and object; and budget reports. The second section presents a classification scheme for describing programs and services and illustrates how this classification scheme can be used to develop descriptions, labels, names, and codes for programs and services and for payroll schedules and cost analysis. The final section provides instructions on how to install and run the RCM computer simulation. Appended are file formats, samples, and worksheets. (TE)

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The RCM:

A Resource Management and Program Budgeting Approach for State and Local Educational Agencies

by

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and

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INTRODUCTION

The RCM computer simulation program is first and foremost an educational cost model, and more importantly a program cost model. From an analytical perspective, it simulates the operations of local educational agencies (schools and districts) to determine costs of, and expenditures on, educational programs and services.

But the RCM is more than just a cost model. From a policy perspective, the RCM represents a systematic approach to assisting educational program professionals, business officers, fiscal planners, and educational policy makers to organize educational program cost data as a way of facilitating decision making about educational programs and services. The RCM organizes data on educational resources, (e.g. teachers, aides, textbooks, supplies, and equipment) and their costs to measure educational program and service costs. The resulting cost measurements are sensitive to differences in the educational needs of different student populations, to variations in the scale of school and district operations, and to variations in the costs of comparable resources in different locations.

More specifically, however, the RCM computer program has been developed specifically to support two very structured decision making models: one at the local level and one at the state level. The local model is referred to as the Educational Planning and Budgeting Model (EPBM). The EPBM is primarily a decision making model designed to support local school and district planning and budgeting activities. As a local model, the RCM becomes a tool for producing annual budgets as well as a solid foundation for policy analysis and planning. For example, local officials could use the model to project changing budgetary requirements resulting from changes in the numbers and composition of student enrollments or from changes in state mandated programs and procedures.

The RCM has also been designed to support a State School Finance and Planning Model (SFPM). As a state model, the RCM system provides a basis from which educational policy makers can determine how much each district will require to provide an "appropriate" education to all of its students. Simultaneously, the model calculates the total state expenditures to accomplish the goal of an "appropriate education for all students". It may be used with a variety of school finance formulas as a basis for distributing state aid to local school districts.

Finally, the RCM may be adapted to a wide variety of cost

and expenditure analyses for examining policy issues at the Federal, state and local levels. The model could used to project future demand for certain kinds of educational programs and services based on prespecified changes in patterns of enrollments or it might be used to estimate current expenditures on specific programs.

With these applications in mind, one can see that the RCM may be used to deal with both questions of the "what is" and "what ought to be" genre, and it is particularly valuable in addressing "what if" kinds of questions. The RCM is a conceptual approach that carries no preconceived notions as to what educational programs should look like. On the one hand, it provides a structure within which decision makers at the state or local level may decide what resources and resource configurations are required to define an appropriate education. Rather than a set of answers to what is appropriate, the RCM is a set of systematic questions that when answered by policy makers will reveal preferences for educational services. These processes result in a definition of what is regarded as an adequate or appropriate set of educational standards for funding or budgeting purposes. On the other hand, the RCM also provides a way to help decision makers reorganize existing information and gather new data in order to more accurately determine what is actually being spent on programs.

The primary purpose of this document is to introduce the reader to the RCM. This document is divided into three major parts. These are:

Part 1 - Introduction to the RCM Approach and Outcomes

Part 2 - The Development of the RCM Database

Part 3 - Implementation of the RCM Computer Simulation

Part 1 of this document will introduce the reader to the conceptual and philosophical framework underlying the development and utilization of the RCM. In addition, Part 1 will illustrate some of the kinds of information produced by the RCM computer program. Part 2 of this document will take the reader through a step by step procedure on how to organize the various items of data that the RCM needs to do educational cost and budget analysis. Finally, Part 3 of this document will provide instructions on how to actually install and run the RCM computer program.

Implementation of the RCM requires the completion of a set of worksheets. Blank copies of these worksheets are provided in a pocket on the back cover of this document.. The user will also require a copy of the RCM program library RCM852 (RCM, Version 85.2) which may be obtained from:

Office of Technology Licensing
105 Encina Hall
Stanford University
Stanford, California 94305
415/497-0651
Attention: Elizabeth Batson

PART 1

INTRODUCTION TO THE RCM APPROACH AND OUTCOMES

CHAPTER I

AN OVERVIEW OF THE RCM APPROACH <A>

The Resource Cost Model (RCM) is a resource management system that combines the technical advantages of sophisticated computer simulation software with the practical benefits of group decision making to provide detailed information about educational program costs. The system brings together educators and policy makers to consider the relative cost-effectiveness of alternative educational programs. It was developed explicitly for use by education organizations, and is ideally suited to provide program cost information and facilitate budgetary decisions in public settings.

The RCM has been used to assist educational policy makers at the national, state and local levels. It was used at the national level to estimate the cost to the nation of implementing the Education for All Handicapped Children Act (PL 94-142), and has recently been selected as the basis for a Congressionally-mandated national survey of special education expenditures. It was used by the states of Illinois and Alaska to develop a cost base for their school-aid allocations. It has been used at the school district level for program planning and budgeting.

In each case, the RCM addressed a common difficulty facing educational decision makers: the problem of determining the actual costs of individual educational programs. In most cases, little is known about the real costs of providing educational programs. Without such information, decisions about which programs to fund and at what levels to fund them often are based solely on guesswork.

The RCM simulates the cost implications of alternative educational program offerings. These cost projections, considered in the context of group decision making, allow program funding decisions to be based on actual costs and needs. The RCM system is designed to assist educational decision makers at all levels: school administrators, local and state school board members, state and federal policy analysts, and legislators. Kent McGuire and John Augenblick of the Education Commission of the States have praised the RCM approach as "an attractive tool for policy makers" and claimed that it offers an improvment over traditional cost accounting techniques.<2> Dr. Michael Kirst, Professor of Education at Stanford University and former president of the California State Board of Education, described the RCM as "the best state-of-the-art system around."<3> Dr. Ruth Love, the Superintendent of the Chicago Public Schools, labeled AEFP's report on the use of the RCM in Illinois as the "most cogent, intelligent document about school financing to surface in years."<4>

USING THE RCM FOR SCHOOL DISTRICT PLANNING AND BUDGETING

Members of the AEFP professional staff, under the auspices of the Institute for Research on Educational Finance and Governance (IFG) at Stanford University, have adapted the RCM system for use by local school districts as a policy and program budgeting tool called the School District Planning and Budgeting Model. This local model is being field tested in Alameda Unified School District in California. Through this project, Alameda Unified is developing a program-based, rather than the traditional line-item, budget for the coming school year. The District is applying this model because it wants budgeting decisions to be "program driven." In the future budget decisions will be governed by the relative needs of the district's educational programs in keeping with the overall goals and priorities of the district.

In connection with this project, Alameda Unified, has formed the Alameda Program Review Committee. This body comprises Board members, instructional and classified personnel, and administrators from both the program and the business sides of the district office. This Committee will review the cost implications of the program-based budgets submitted to them in light of district priorities as set by the Board.

Given the customary division between the program and business components of school district administration, school board members, and instructional and classified personnel, an important result of using the RCM system process at the local level has been the initiation of a formal communication network between these components of the district's governing structure.

THE RCM AT THE STATE LEVEL

At the state level, the lack of information concerning the relative costs of educational programs seriously complicates the issue of funding. All states allocate considerable funds for education, and all of the states allocate more dollars for students in such high cost programs as special education. Currently, little data exist to help the state determine how much state aid each district should receive.

The RCM system provides program cost information to the state that allows state aid to be allocated on the basis of differences in the costs of providing comparable educational programs at different locations across the state. If, for example, states knew the relative costs of delivering a standard high school curriculum, a standard vocational curriculum and a standard special education curriculum in different districts throughout the state, an equitable amount of state aid for each district for each type of program could be determined.

A simple application of this idea might look like this: If it could be determined that educating pupils with special needs costs twice as much as educating students in standard programs, the state could count "special" pupils twice for state aid purposes. (In fact, many states do use relatively simple weighting systems as the basis for their aid formulas.) Unfortunately, simple ratios seldom capture educational program costs accurately. Such classification schemes are generally too broadly defined and lose their original meaning over time.

The measurement of educational program cost variations is, in fact, quite complex; but it is also very important because it seriously affects the ability of school districts across the state to provide educational programs of comparable quality. The RCM system provides a decision making structure for establishing statewide educational program quality standards for funding purposes. These program quality standards developed within the RCM process are based on cost analyses and the judgment of educators and other concerned citizens that may be selected to participate from across the state.

As the states have become increasingly sensitive to the fairness of funding formulas for education, the accurate measurement of educational program cost variations has become more important to state policy makers. This concern has led the states of Illinois and Alaska to adopt the RCM system as the basis of school finance reform studies. Rather than a variety of categorical funding grants and cost adjustments in the state funding formula, the RCM approach results in a single-dollar grant for each district, which reflects its unique set of educational program needs and costs.

This cost-adjusted grant reflects the fact that districts have differing ratios of students with special needs, and that transportation, utility and personnel costs may vary across the state. This base amount will be different for every district in the state, and will represent the cost of providing comparable educational services to the unique set of students enrolled in each district, at some standard level of quality. This approach results in a state funding formula that assures equitable levels of educational resources for all school districts in the state based on what the state as a whole can afford.

USING THE RCM AT THE NATIONAL LEVEL

Dr. William Hartman, of the University of Oregon, laid the groundwork for the initial RCM concept in measuring the cost to the nation of fully implementing the Education for All Handicapped Children Act.<5> Since this inception, the RCM concept has been considerably enhanced and developed by the staff of AEFP to include a comprehensive decision making process and a cost simulation model.

In the Fall of 1984, Decision Resources in conjunction with AEFP was awarded a contract by the U.S. Office of Special Education to use the enhanced RCM methodology as the conceptual base for a Congressionally-mandated study of the costs of special education and related services at 60 randomly selected school districts across the the nation.<6>

Rather than attempt to impose uniformity on the myriad accounting and budgeting techniques that these districts may employ to plan and track expenditures, the research teams on this project will list the resources that each district is actually allocating to each of the special education programs offered. By attaching local prices to this list of resources, it will be possible to determine actual expenditures by program. The researchers will be concerned with such resource standards as class size, personnel allocations, and equipment levels.

These processes will reveal the full costs of each of the various special education programs, and will allow the comparison of these costs to those of other educational programs. Viewing the different ways that children with similar needs are served by different districts will also provide a basis for considering the most efficient ways of serving children with special needs. In addition, this approach should initiate a discussion of the resource needs of students in special programs in relation to the needs of students in standard programs.

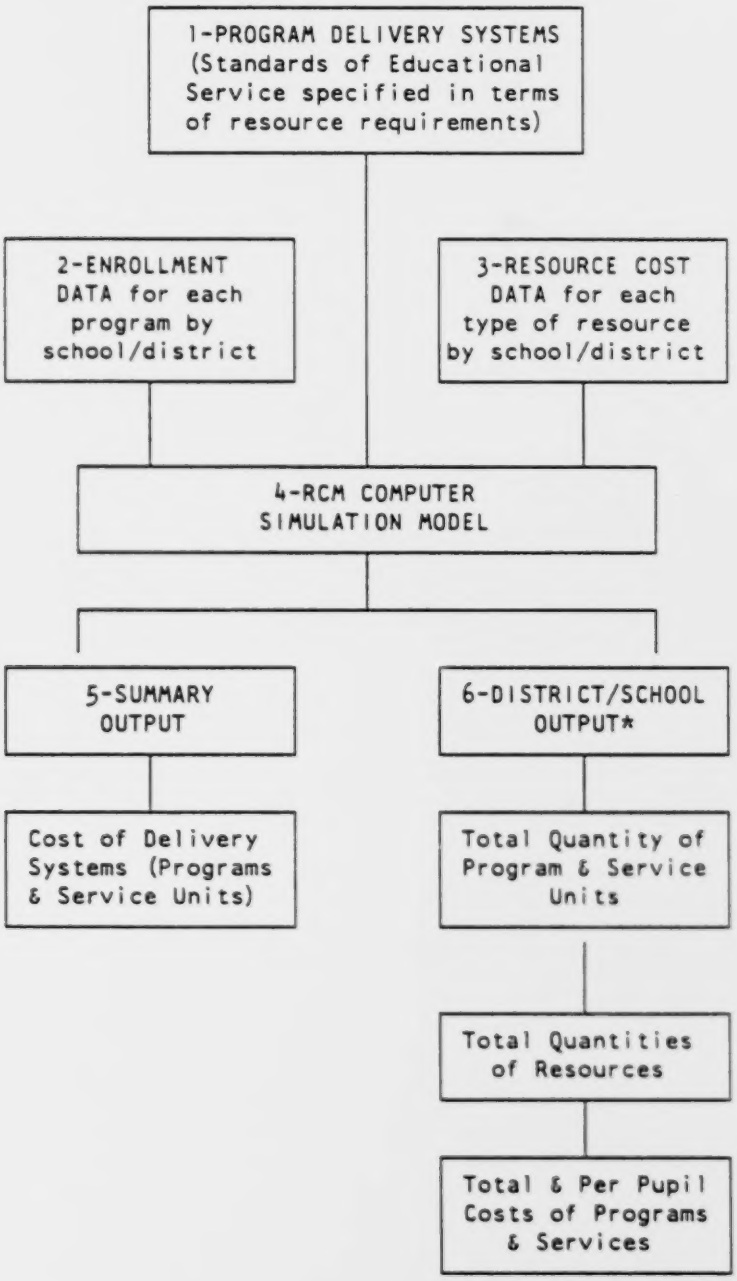
THE COMPUTER SIMULATION COMPONENT OF THE RCM

Essentially, the RCM is an "ingredients" approach to determining the cost of education programs. This involves three steps: listing a uniform set of educational programs, determining the specific resources needed for each of these programs, and attaching prices to each of these resources to determine specific program costs. The overall cost of education is determined on the basis of these programmatic standards and the number of pupils enrolled in each program.

The technical steps in this simulation process are illustrated in Figure 1-1. In Box 1, standards of educational service are established in terms of resource requirements for the various programs. For example, numbers of teachers, administrators, supplies and materials are specified for each program by designated program experts. By combining these resource configurations (Box 1) with enrollment data by program (Box 2), the quantities of resources required to provide this program for an entire school or school district can be determined. Through the multiplication of these resource quantities by their local prices (Box 3), educational costs can be calculated for each school or district via the RCM computer simulation model (Box 4). The simulation model produces cost information by program (Box 5) as well as cost data by school and/or school district (Box 6).

FIGURE I-1

THE RCM COMPUTER SIMULATION MODEL


1-PROGRAM DELIVERY SYSTEMS (Standards of Educational Service specified in terms of resource requirements)
2-ENROLLMENT DATA for each program by school/district
3-RESOURCE COST DATA for each type of resource by school/district
4-RCM COMPUTER SIMULATION MODEL
5-SUMMARY OUTPUT
6-DISTRICT/SCHOOL OUTPUT*
Cost of Delivery Systems (Programs & Service Units)
Total Quantity of Program & Service Units
Total Quantities of Resources
Total & Per Pupil Costs of Programs & Services

*This district level output is reported in the form of totals as well as by program, program category, school type, and district administrative and support service category.

DECISION MAKING COMPONENT OF THE RCM

The RCM system also encompasses a decision making process which can be employed whenever specific policy outcomes are required. This process need not accompany the basic cost simulation model when the RCM is used to determine what is being spent on a given educational program. Rather, the decision making process was developed for use when there is a significant subjective component to the policy options being considered. For example, it might be used when deriving a school district budget or determining the program standards on which programmatic costs across a state will be based.

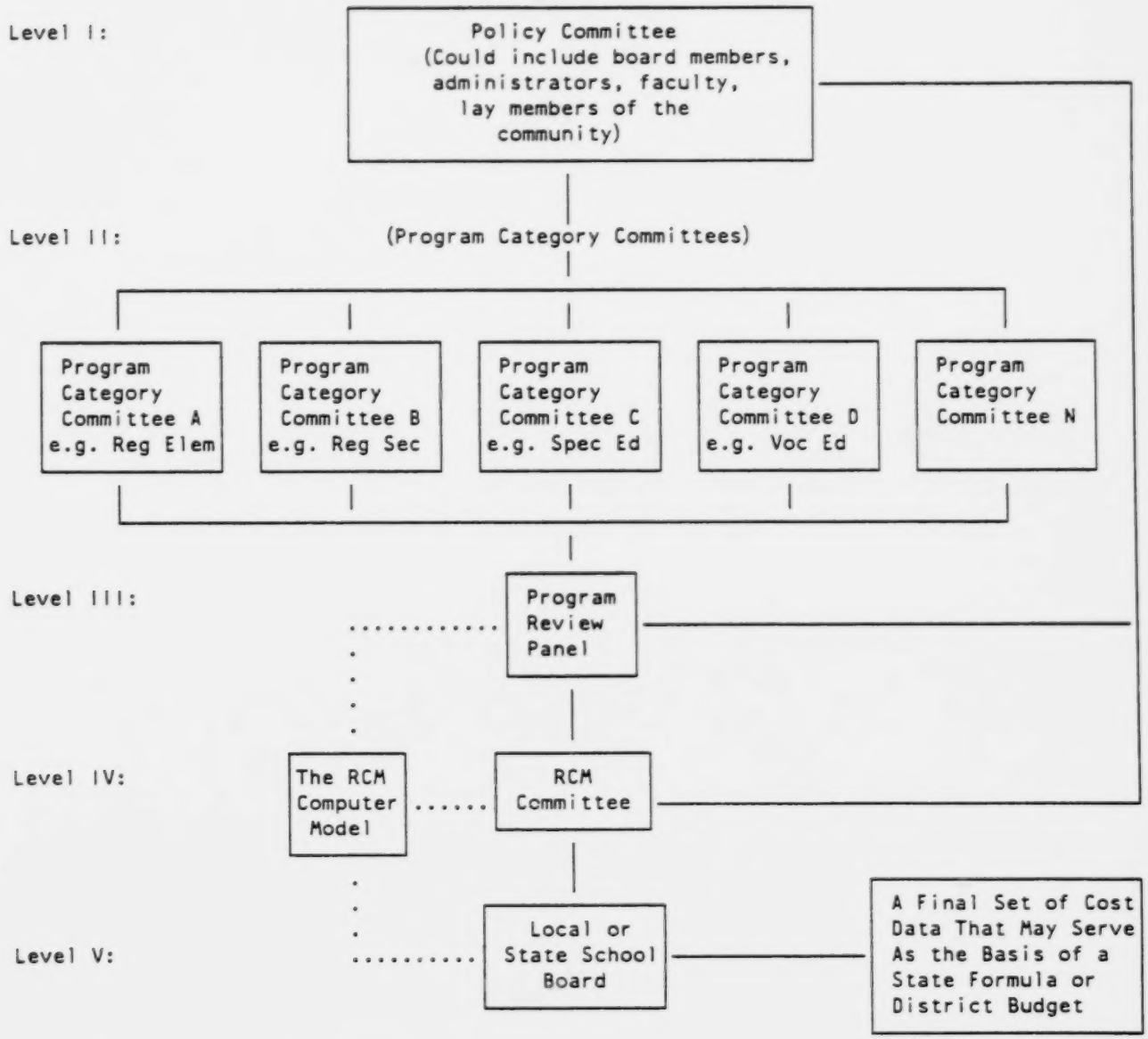
The RCM process leads policy makers through the politically sensitive decisions always associated with the allocation of public resources. It is a process for establishing standards regarding which educational programs should be receiving support and what levels of support are appropriate.

There is a great deal of flexibility in using the RCM system, and the accompanying process can be tailored to fit existing organizational structures and various political climates. A prototype of this process is outlined in Figure I-2. The RCM process is depicted at five levels of involvement. At Level 1, a Policy Committee is formed. This relatively small group of policy makers will comprise a unique combination of individuals for each organization. For example, members would represent the school board and the administration, and might also come from other segments of the school and community, such as parents, students, teachers. This group will define the program categories to be included in the analysis, and may use this opportunity to assess the immediate needs and long-term plans of the organization.

At Level 2, the Program Category Committees are convened. The exact organization of programs and services into program categories will be particular to each organization. Common program categories include Regular Elementary, Regular Secondary and Special Education. These groups should include members with specific program expertise and broad-based constituencies. The primary task of each program category committee is to designate the resources that are, or should be, assigned to each of its educational programs. At Level 3, single representatives from each educational program category convene as the Program Review Panel for the initial evaluation and standardization of the resource quantities that have been specified. This stage allows the development of a consistent rationale to underlie the resulting program standards.

The RCM Committee, Level 4, usually includes representatives outside the education agency. This allows a broader perspective through the addition of representatives from the agency's supporting environment. At the state level, this might include representatives from the legislative and executive branches of government. These constituencies represent the more

FIGURE I-2
THE RCM PROCESS


Level I:
Policy Committee (Could include board members, administrators, faculty, lay members of the community)
Level II:
(Program Category Committees)
Program Category Committee A e.g. Reg Elem
Program Category Committee B e.g. Reg Sec
Program Category Committee C e.g. Spec Ed
Program Category Committee D e.g. Voc Ed
Program Category Committee N
Level III:
Program Review Panel
Level IV:
The RCM Computer Model
RCM Committee
Level V:
Local or State School Board
A Final Set of Cost Data That May Serve As the Basis of a State Formula or District Budget

general concerns of government which must balance the resource needs of education against all other public services. At the local level, teachers, parents, students and other community members might be included.

In the last step, the proposed specifications and cost data derived by the RCM Committee move to the final decision making authority for review. At the state level this will be the State Board and Legislature; at the district level it will be the local School Board. The two-way arrows in the diagram illustrate that the program recommendations and definitions may be submitted to the final authority and resubmitted to the program levels for further clarification or review at the discretion of the policy makers involved. The various levels of review serve to keep the specifications in line with the overall budget limitations facing the organization. At each level, the specifications may be altered or referred back to an earlier committee for further consideration.

Each level of the process for specifying educational resources is conducted such that the participants are kept aware of the resource constraints facing the organization. Intra-program and inter-program resource trade-offs become apparent to the participants through the realization that educational resources assigned to Program A reduce the remaining pool of resources available to Program B. At the same time, the RCM can provide a framework for comparing actual funding or service levels to the costs of the alternatives decision makers may wish to consider. The RCM system is a method for assessing deficiency in funding as well as a practical tool for allocating existing resources.

At Levels 2 through 4 these negotiation processes may be informed by cost simulations from the RCM computer program. This capability is illustrated by the broken lines in Figure 1-2. It is important to note how the interactive nature of a computer program adds to the power of the RCM decision making process. Beyond the computational functions, which would be overwhelming if this concept were not computerized, the speed and facility of this computer program allows the simulation of a variety of resource allocation strategies. It is the near-immediate feedback of the cost implications of policy alternatives that allows fine-tuning and adjustment toward a balance that is "appropriate" in terms of what programs require and what is affordable.

SUMMARY

The RCM system is much more than a process for measuring educational costs or setting school district budgets. It is a resource allocation tool that allows a broad range of constituents in the participating agency to consider how resources can be allocated equitably and used most efficiently. This approach accommodates the political orientation inevitable in all public allocation decisions.

In 1983 and 1984, workshops on the RCM attracted representatives from sixteen states, the District of Columbia and two Canadian provinces.<7> Why has the RCM approach generated so much interest? First, it brings educators, resource management personnel and educational policy makers together to consider the most effective allocations of available resources. Second, it facilitates the consideration of what resources should be assigned to educational programs rather than being confined to existing program descriptions. Third, in an era of concern over what constitutes "basic" education, the RCM requires the precise definition of service levels for all educational programs. Fourth, it allows the unique educational priorities of each user agency to surface. Last, it forces competing and complementary interests and needs across educational programs to be considered in relation to one another.

The RCM system can also be updated annually with relative ease. At the state level, this represents a significant improvement to the common practice of relying on "legislative patchwork" to update the state funding formula. In the words of Robert Jamieson, Chairman of the Illinois Public School Finance Project, "We've got to get away from going before the General Assembly every year and putting the educational needs of the state up for auction without taking into consideration the costs and needs of education."<8>

At the school district level, the RCM system provides an important information base for facilitating the budgeting and planning decisions continually confronting educational organizations. Twenty years ago H. Thomas James, former Dean of the Stanford University College of Education, described a situation with which education agencies still struggle: "increases in the total (school) budget are (not) allocated. . .on a selective basis, but on a flat percentage-increase basis. . .the reason this is so is that insufficient information is available at the policy-making level to provide a more rational basis for allocating funds."<9> The RCM is a computer-assisted decision making model designed specifically to provide the cost data needed to make selective allocations in public education settings.

The RCM system provides an information base which is easily accessible to the educational decision maker through the RCM simulation program. It provides a structure in which educators, school business officials, community members, and policy makers

can work together to establish standards of educational service. At the state level, the data produced by this process fully account for the costs and needs of educational programs and can serve as the basis for state aid allocations. At the local level, these data provide a basis for rationally allocating funds and making planning decisions. In both instances, the RCM computer model protects against the obsolescence of the data base by allowing annual revisions to be made with relative ease. The RCM system represents a fairly low-cost, highly participatory approach for improving the quality of information for educational decision making. The development of an innovation for taking the guess work out of school finance seems especially timely in this era of educational reform.

FOOTNOTES FOR CHAPTER I

<*> This Chapter is based on a document entitled "An Overview of the Resource Cost Model (RCM)" prepared by Thomas B. Parrish and Jay G. Chambers under the auspices of AEFP, Inc., November 9, 1984.

<2> Kent C. McGuire and John Augenblick, Evaluating School Finance in Alaska, Volume II (Denver, Colorado: Education Commission of the States, 1983), p. 95.

<3> Robert Rudy, "A New Way for State to Finance Schools" (Palo Alto, California: The Peninsula Times Tribune, March 24, 1983), pp. B-1 and B-4.

<4> Ruth B. Love, "A School Finance Opportunity" (Chicago, Illinois: The Chicago Tribune, January 17, 1983).

<5> William T. Hartman, "Estimating the Costs of Educating Handicapped Children: A Resource-Cost Model Approach" (Stanford University, Ph.D. Dissertation, 1979), p. 96.

<6> AEFP, Inc. has sub-contracted with Decision Resources Corporation of Washington D.C., to provide the conceptual outline and basic methodology, as well as to assist in the implementation of this project.

<7> These American Education Finance Association Annual Conferences, were held in Washington D.C. in 1983 and Orlando in 1984.

<8> Don Sevener, "Illinois Panel Uses 'State-of-the-Art' Approach in School-Finance Plan," Education Week, September 14, 1983, p. 5.

<9> H. Thomas James, "Modernizing State and Local Financing in Education," in A Financial Program For Today's Schools (Washington, D.C.: National Education Association Committee on Educational Finance, 1964), pp. 56-57.

CHAPTER II

THE OUTPUT - THE KINDS OF INFORMATION PROVIDED BY THE RCM SIMULATION PROGRAM

Before proceeding to a technical discussion of the RCM database, it is important that the reader understand just what kinds of information are derived from the RCM cost analysis. The purpose of this chapter is to present samples of the different kinds of cost data that are produced by the RCM computer simulation program. The samples presented below are drawn from a LOCAL APPLICATION of the RCM. Similar kinds of data would be derived from a STATE APPLICATION with the major difference being in the ranges of the size of service units: the state application would involve a wider range of size variations.

Standard accounting procedures used in schools commonly produce cost information by line item or resource object codes. Cost information is organized by the type of item or resource purchased. Cost data are produced for teachers' salaries, principals' salaries, textbooks, supplies and materials, energy services, and instructional equipment. In many instances, this is the level of detail required by most state departments of education for reporting school and district expenditures. While these data may be useful from an accounting standpoint for tracking expenditures in relation to revenues, they are often not very useful for any kind of decision making or policy analysis. Line item cost data do not provide a solid foundation for making budget allocation decisions. When we cut expenditures on teachers' salaries, what is really being cut? Which programs will be eliminated? When we are adding dollars to the budget, in which resource categories do we add funding? Ultimately, all of these decisions require some kind of programmatic reallocation of dollars. Someone somewhere within the educational agency must decide what and where to cut: which teachers, associated with which programs.

The RCM would allow these decisions to be made more systematically with full information for those officials responsible for budget allocation. If such decisions are not formalized, then the "wrong" programs may end up getting eliminated or added, or different kinds of programs will be added or deleted in different places. While to some degree we might agree that decisions should be as close to the point of impact as possible so those affected can be involved in the process, it is also important that the relationship between local agencies and the responsibilities of the higher authorities in these decisions cannot be ignored. State authorities have a responsibility for treating local school districts equitably in the allocation of state funds. Local school districts need to coordinate educational programmatic functions among their local schools.

The RCM is designed to facilitate educational program decision making. The basic unit of analysis is the program or service unit. The program or service unit becomes the focus of cost and other related decision making information. At the same time, individual resources are the building blocks for program and service units. The RCM produces cost and quantity data organized by program or service unit as well as by resource or object. Not only can we determine how much is spent on teachers, but we can also determine how much is spent on teachers within specific programs and how many teachers are likely to be required throughout a school, district or state to provide the specific service.

It is important to point out that the RCM is not an accounting program. Although the structure of the RCM can be used to design an accounting system, the RCM computer simulation model is primarily a tool for building budgets, projecting costs, or measuring current expenditures. It is not a program for producing balance sheets or income statements.

The RCM database is organized around four CLASSES OF DELIVERY SYSTEMS. These include:

- INSTRUCTIONAL PROGRAMS AND RELATED SERVICES
- SCHOOL ADMINISTRATION AND SUPPORT SERVICES
- PROGRAM ADMINISTRATION AND SUPPORT SERVICES
- DISTRICT ADMINISTRATION AND SUPPORT SERVICES

Cost and quantity data are produced by the programs, service units, and resources within these four CLASSES. Instructional programs and related services include direct services to children, while the other three classes include the administrative and support services and resources at the school, program and district level required to provide these direct services.

The RCM produces four kinds of cost reports. Each of these reports is described below and examples of each are presented.

A. SUMMARY COST DATA.

Samples of the summary cost data are presented in Tables II-1 through II-4. These tables present costs for program and service delivery systems. The delivery systems are defined in terms of numbers of students served and the resources (e.g., teachers, aides, supplies and materials) required to provide the services. Tables II-1 through II-4 provide cost data for programs and services respectively within the four CLASSES OF DELIVERY SYSTEMS, respectively.

Table II-1 represents only a sample of instructional programs

TABLE II-1
THE COSTS OF INSTRUCTIONAL PROGRAMS AND RELATED SERVICES
BY PROGRAM AND BY SIZE OF PROGRAM UNIT

PROGRAM CATEGORY: Middle School CATEGORY CODE: 02-3-101

PROGRAM CODE (1)	PROGRAM DESCRIPTION (2)	TOTAL COST PER UNIT (AT TARGET) (3)	MINIMUM PROGRAM SIZE COST PER STUDENT (4)	MINIMUM PROGRAM SIZE NO OF STUDENTS (5)	TARGET PROGRAM SIZE COST PER STUDENT (6)	TARGET PROGRAM SIZE NO OF STUDENTS (7)	MAXIMUM PROGRAM SIZE COST PER STUDENT (8)	MAXIMUM PROGRAM SIZE NO OF STUDENTS (9)
E020	Drama 7-8 (Semester course)	$2,885	$115	25	$96	30	$85	34
E026	Drama 6 (Semester course)	$2,885	$115	25	$96	30	$85	34
E,P0	Publications 7-8 (Semester course)	$2,909	$116	25	$97	30	$86	34
E020	Reading Lab 7-8 (Semester course)	$2,618	$262	10	$175	15	$145	18
E060	Basic Reading 6 (Semester course)	$5,695	$379	15	$285	20	$228	25
E061	Accelerated Reading 6	$5,695	$227	25	$190	30	$168	34
E062	General Reading 6	$5,695	$227	25	$190	30	$168	34
E063	Self-Contained Reading 6	$7,381	$295	25	$246	30	$217	34
E065	Self-Cont. Reading, Accelerated 6	$7,381	$295	25	$246	30	$217	34
E066	Mythology	$7,381	$295	25	$246	30	$217	34
E120	ESL 6-8	$5,723	$1,142	5	$572	10	$383	15
E260	Basic English 6	$5,891	$392	15	$295	20	$236	25
E261	Accelerated English 6	$5,891	$235	25	$196	30	$174	34
E262	General Eng./Lang. Arts 6	$5,891	$235	25	$196	30	$174	34
E263	Self-Contained Eng./Lang. Arts 6	$7,381	$295	25	$246	30	$217	34
E265	Self-Cont. English, Accelerated 6	$7,381	$295	25	$246	30	$217	34
E270	Basic English 7	$5,891	$392	15	$295	20	$236	25
E271	Accelerated English 7	$5,891	$235	25	$196	30	$174	34
E272	General Eng./Lang. Arts 7	$5,891	$235	25	$196	30	$174	34
E274	Self-Contained Eng./Lang A 7Core (3 periods)	$10,955	$848	20	$771	22	$678	25
E280	Basic English 8	$5,891	$392	15	$295	20	$236	25
E281	Accelerated English 8	$5,891	$235	25	$196	30	$174	34
E282	General Eng./Lang. Arts 8	$5,891	$235	25	$196	30	$174	34
E284	Self-Contained Eng./Lang A 8Core	$10,955	$848	20	$771	22	$678	25
M081	Algebra	$5,572	$222	25	$186	30	$164	34
M021	Pre Algebra 7-8	$5,572	$223	25	$186	30	$164	34
M260	Basic Math 6	$5,572	$370	15	$279	20	$223	25
M261	Accelerated Math 6	$5,586	$223	25	$186	30	$165	34
M262	General Math 6	$5,569	$221	25	$185	30	$164	34
M263	Self-Contained Math 6	$7,381	$295	25	$246	30	$217	34

and related services. The sample programs shown are from among those specified in the middle school program category. Column (1) presents the program codes and column (2) presents the program description. Column (3) displays the total cost of a program unit (e.g., a class) at the "target" size. For example, Pre Algebra 7-8 costs $5,572 per class unit per year to provide at the target size level of 30 students (see column (7). Columns (4), (6) and (8) show the cost per pupil of providing this Pre Algebra course at the minimum, target and maximum class sizes of 25, 30 and 34 students shown in columns (5), (7) and (9), respectively.

Similar cost data are presented in Tables II-2, II-3 and II-4 for the administrative and support services. The service unit codes and descriptions are in columns (1) and (2). The 'BASIS FOR MEASURING SIZE OF UNIT' is designated in column (3). This indicates the way in which service unit size is specified and provides the basis from which the service unit delivery system was derived. In most cases, the number of pupils is sufficient to reflect the size of service unit. Note however, that for food service production, the number of meals per day was selected as the size measure. Column (4) shows the total cost of providing the service unit for Size Group 3. Size group 3 generally reflects the current (average) size of such service units within the district. Columns (5) through (8) present the costs per pupil for the respective size groups along with the corresponding sizes in parenthesis immediately below the cost data.

These summary cost data may be used to construct profiles of student programs. These profiles would consist of a selection of various combinations of instructional programs and related services along with the pertinent administrative and support services relevant to a given type of student. A sample of such a profile is exhibited in a later table constructed from the average district cost data described below.

From these program and service level data, one can already begin to see a variety of kinds of comparisons that are possible. Different kinds of delivery systems can be compared as well as the costs of providing certain specific collections of programs, e.g., art courses versus math and English courses. The cost of administrative and support services can be compared among themselves as well as with the cost of instructional programs. Finally, a variety of student profiles could be developed for comparing programmatic costs of pupils exhibiting different kinds of needs: academic versus vocational, regular versus handicapped, disadvantaged and bilingual.

B. TOTAL AND AVERAGE COSTS OF EDUCATIONAL SERVICES

Combining actual program enrollment data and/or counts of the number of programs and service units of various types with the program standards underlying the summary cost data presented in A above, one can then determine total and average costs of

TABLE II-2
THE COSTS OF SCHOOL ADMINISTRATION AND SUPPORT SERVICES
BY SERVICE TYPE AND BY SIZE OF SERVICE UNIT

SERVICE UNIT CODE	DESCRIPTION	BASIS FOR MEASURING SIZE OF UNIT	TOTAL COST OF SIZE GROUP 3	COST PER BASIS UNIT BY SIZE GROUP (SIZE OF UNIT) GROUP 1	GROUP 2	GROUP 3	GROUP 4
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01-3-490.	Elementary School--Genl Admin	# of Pupils	$111,602	(0)	$496 (200)	$319 (350)	$224 (500)
01-3-490.470	Elementary Library	# of Pupils	$19,679	(0)	$98 (200)	$56 (350)	$39 (500)
02-3-490.	Middle School--Genl Admin	# of Pupils	$200,435	(0)	$401 (500)	$321 (625)	$297 (750)
02-3-490.470	Middle School - Library	# of Pupils	$13,510	(0)	$27 (500)	$22 (625)	$18 (750)
02-3-490.620	Middle School Counseling Service	# of Pupils	$35,536	(0)	$71 (500)	$57 (625)	$47 (750)
02-3-490.840	Middle Schools Supplemental/w/Kitchen	# of Pupils	$0	(0)	$0 (500)	$0 (625)	$0 (750)
02-3-840.	Food Service- Production - K-8	# of meals/day	$284,566	(0)	$212 (1,000)	$203 (1,400)	$205 (1,700)
03-5-490.470	High School - Library	# of Pupils	$54,426	(0)	$54 (1,000)	$36 (1,500)	$27 (2,000)
03-5-490.490-2	High School--Genl Admin--AHS	# of Pupils	$648,045	$868 (750)	$648 (1,000)	$432 (1,500)	$326 (2,000)
03-5-490.490-2	High School--Genl Admin--EHS	# of Pupils	$627,824	$837 (750)	$628 (1,000)	$502 (1,250)	$419 (1,500)
03-5-840.	Food Service - Production - 9-12	# of meals/day	$136,887	(0)	$314 (300)	$304 (450)	$259 (700)
09-7-493.	Adult	# of Pupils	$105,788	(0)	$183 (400)	$176 (600)	$213 (800)
09-7-493.425	Adult School - Ed. Srv. Resources	# of Pupils	$4,500	(0)	$11 (400)	$7 (600)	$6 (800)
10-5-490.	Island High	# of Pupils	$137,535	(0)	$849 (162)	$506 (272)	$458 (300)

TABLE II-3
THE COSTS OF PROGRAM ADMINISTRATION AND SUPPORT SERVICES
BY SERVICE TYPE AND BY SIZE OF SERVICE UNIT

SERVICE UNIT CODE	DESCRIPTION	BASIS FOR MEASURING SIZE OF UNIT	TOTAL COST OF SIZE GROUP 3	COST PER BASIS UNIT BY SIZE GROUP (SIZE OF UNIT) GROUP 1	GROUP 2	GROUP 3	GROUP 4
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
04-1-552.	Child Development Center	# of Pupils	$130,921	.	$808	$655	$582
				(0)	(150)	(200)	(250)
04-1-552.1	Child Develop. Cntr--Food Service	# of Pupils	$69,332	.	$376	$347	$315
				(0)	(150)	(200)	(250)
05-2-300.	Special Ed. General	# of Pupils	$622,216	.	$1,000	$830	$939
				(0)	(550)	(750)	(850)
05-2-300.1	Sp Ed. Resource Room	# of Pupils	$16,215	.	$32	$22	$19
				(0)	(500)	(750)	(850)
06-3-543.1	GATE-Ed. Srv. Resources	# of Pupils	$5,000	.	$33	$25	$20
				(0)	(150)	(200)	(250)
07-9-511.	LEP (Limited English Proficient)	# of Pupils	$10,355	.	$28	$23	$26
				(0)	(350)	(460)	(550)
08-6-104.	ROP	# of Pupils	$66,603	.	$222	$167	$133
				(0)	(300)	(400)	(500)
08-6-104.01	Joint Training Partnership Act	# of Pupils	$8,333	.	$52	$49	$46
				(0)	(160)	(170)	(180)
12-5-126.	Driver Training	# of Pupils	$20,039	.	$48	$40	$35
				(0)	(400)	(500)	(600)
13-5-509.	Vocational Education	# of Pupils	$32,174	.	$71	$54	$32
				(0)	(450)	(600)	(1,000)
15-3-540.	School Improvement Plan (SIP)	# of Schools	$10,080	.	$1,956	$1,440	$1,153
				(0)	(5)	(7)	(9)
16-3-526.	Chapter 1	# of Pupils	$13,770	.	$21	$20	$19
				(0)	(650)	(700)	(750)

TABLE II-4
THE COSTS OF DISTRICT ADMINISTRATION AND SUPPORT SERVICES
BY SERVICE TYPE AND BY SIZE OF SERVICE UNIT

SERVICE UNIT CODE	DESCRIPTION	BASIS FOR MEASURING SIZE OF UNIT	TOTAL COST OF SIZE GROUP 3	COST PER BASIS UNIT BY SIZE GROUP (SIZE OF UNIT)			
				GROUP 1	GROUP 2	GROUP 3	GROUP 4
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01-9-710.	Gen. District Admin.	# of Pupils	$192,677	(0)	$24 (8,000)	$23 (8,450)	$22 (8,900)
01-9-810.	Community Service Program	# of Pupils	$4,931	(0)	$1 (8,000)	$1 (8,450)	$1 (8,900)
02-9-725.	Business/Fiscal- Business Services	# of Pupils	$565,628	(0)	$71 (8,000)	$67 (8,450)	$64 (8,900)
02-9-725.726	Business/Fiscal - District Wide	# of Pupils	$1,812,272	(0)	$227 (8,000)	$214 (8,450)	$204 (8,900)
03-9-719.	Personnel	# of Pupils	$185,992	(0)	$23 (8,000)	$22 (8,450)	$25 (8,900)
04-9-425.	Educational Services	# of Pupils	$183,309	(0)	$23 (8,000)	$22 (8,450)	$23 (8,900)
04-9-425.163	P.E./ Ath / Health / Safety	# of Pupils	$38,081	(0)	$5 (8,000)	$5 (8,450)	$4 (8,900)
04-9-425.440	Ed.Serv--Cur.Dev./Inser.	# of Pupils	$138,369	(0)	$17 (8,000)	$16 (8,450)	$16 (8,900)
04-9-425.471-0	Educ. Ser. T.R.C.	# of Pupils	$151,176	(0)	$19 (8,000)	$18 (8,450)	$17 (8,900)
04-9-425.471-0	Educ. Ser.- Testing	# of Pupils	$17,770	(0)	$2 (8,000)	$2 (8,450)	$2 (8,900)
04-9-425.733	Educ. Ser. Duplicating	# of Pupils	$18,000	(0)	$2 (8,000)	$2 (8,450)	$2 (8,900)
04-9-526.526-0	Chapter II	# of Pupils	$67,911	(0)	$8 (8,000)	$8 (8,450)	$8 (8,900)
05-9-692.	Pupil Personnel Services	# of Pupils	$98,746	(0)	$16 (6,000)	$12 (8,300)	$12 (10,000)
05-9-692.630	Pupil Pers--Psych. Servs	# of Pupils	$176,082	(0)	$22 (8,000)	$21 (8,450)	$20 (8,900)
05-9-692.640	Pupil Pers--Health Srvs	# of Pupils	$184,079		$23	$22	$21

TABLE II-4 (CONTINUED)
THE COSTS OF DISTRICT ADMINISTRATION AND SUPPORT SERVICES
BY SERVICE TYPE AND BY SIZE OF SERVICE UNIT

SERVICE UNIT CODE	DESCRIPTION	BASIS FOR MEASURING SIZE OF UNIT	TOTAL COST OF SIZE GROUP 3	COST PER BASIS UNIT BY SIZE GROUP (SIZE OF UNIT)			
				GROUP 1	GROUP 2	GROUP 3	GROUP 4
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				(0)	(8,000)	(8,450)	(8,900)
06-9-750.	Maintenance & Operations	# of Pupils	$1,013,821	.	$127	$120	$114
				(0)	(8,000)	(8,450)	(8,900)
06-9-775.001	District Utilities - Water	# of Pupils	$58,399	.	$7	$7	$7
				(0)	(8,450)	(8,450)	(8,450)
06-9-775.002	District Utilities - Gas	# of Pupils	$258,128	.	$31	$31	$31
				(0)	(8,450)	(8,450)	(8,450)
06-9-775.003	District Utilities - Electric	# of Pupils	$318,514	.	$38	$38	$38
				(0)	(8,450)	(8,450)	(8,450)
07-9-840.	Food Service Administration	# of Pupils	$120,254	.	$15	$14	$14
				(0)	(8,000)	(8,450)	(8,900)
08-9-730.	Data Processing	# of Pupils	$294,685	.	$37	$35	$33
				(0)	(8,000)	(8,450)	(8,900)

TABLE II-5

SIMULATION SEQUENCE NO.: 01

TOTAL AND AVERAGE COSTS OF EDUCATIONAL SERVICES
AND THE BREAKDOWN AMONG CLASSES OF SERVICES

SCHOOL ID CODE	SCHOOL/LOCATION	TOTAL ENROLLMENT	TOTAL COST OF EDUCATIONAL SERVICES	AVERAGE COST PER PUPIL	PERCENT INSTRUC COST	PERCENT SCH ADM COST	PERCENT PROG ADM COST	PERCENT DIST ADM COST
DISTRICT: ALAMEDA UNIFIED SCH DISTRICT								
000	DISTRICT TOTALS	8,260	$27,749,919	$3,360	58.22	16.82	3.74	21.22
001	Lincoln Middle School	500	$1,157,719	$2,315	78.90	21.10	0.00	0.00
002	Edison Elementary	370	$593,431	$1,604	77.87	22.13	0.00	0.00
003	Amelia Earhart Elementary	346	$619,744	$1,791	78.88	21.12	0.00	0.00
004	Franklin Elementary	0	$0	$0	0.00	0.00	0.00	0.00
005	Haight Elementary	292	$733,343	$2,511	82.75	17.25	0.00	0.00
006	Mastic School	0	$0	$0	0.00	0.00	0.00	0.00
007	Washington Elementary	333	$792,298	$2,379	83.61	16.39	0.00	0.00
008	Longfellow Elementary	534	$1,094,325	$2,049	73.20	26.80	0.00	0.00
009	Donald D Lum Elementary	559	$975,044	$1,744	69.50	30.50	0.00	0.00
010	Chipman Middle School	610	$1,672,469	$2,742	67.87	32.13	0.00	0.00
011	George P Miller Elementary	416	$677,452	$1,628	80.59	19.41	0.00	0.00
012	Woodstock Elementary	472	$946,106	$2,004	86.08	13.92	0.00	0.00
013	Frank Otis Elementary	294	$689,291	$2,345	81.62	18.38	0.00	0.00
014	Paden Elementary	0	$0	$0	0.00	0.00	0.00	0.00
015	Will C Wood Middle School	702	$2,001,407	$2,851	70.51	29.49	0.00	0.00
016	Woodstock Child Development Ce	242	$547,492	$2,262	100.00	0.00	0.00	0.00
022	Alameda High School	1,287	$3,404,288	$2,645	75.58	24.42	0.00	0.00
023	Encinal High School	1,014	$2,775,446	$2,737	70.15	29.85	0.00	0.00
024	Island High School	267	$400,400	$1,500	65.74	34.26	0.00	0.00
091	Special Education District Wid	0	$892,459	$0	100.00	0.00	0.00	0.00
092	ROP District Wide Programs	0	$421,461	$0	100.00	0.00	0.00	0.00
093	Driver Training,District Wide	0	$46,624	$0	100.00	0.00	0.00	0.00
094	Independent Study,District Wid	20	$31,241	$1,562	100.00	0.00	0.00	0.00
095	Home and Hospital,District Wid	2	$12,827	$6,413	100.00	0.00	0.00	0.00
096	Miscellaneous District Wide Pr	0	$65,325	$0	100.00	0.00	0.00	0.00
101	St Barnabas	0	$264,400	$0	100.00	0.00	0.00	0.00
102	St Joseph	0	$9,600	$0	100.00	0.00	0.00	0.00

educational services as well as the breakdowns by CLASS OF DELIVERY SYSTEM. The summary cost data in Tables II-1 through II-4 represent hypothetical data -- what programs would cost if provided at these different sizes. When one adds actual enrollment counts to these summary cost data, then total program and service unit costs can be computed for a local educational agency. The first way these actual cost data are summarized then is presented in Table II-5. This Table breaks down the total and average cost data by school site within the district and presents DISTRICT TOTALS. The district totals reflect not only the summation of the school site costs (i.e., the instructional programs and related services and the school administration and support services), but also the program and district level administrative and support service costs. In our sample district, total costs amounted to $27.7 million for 8,260 pupils for an average of $3,360. The last four columns of Table II-5 indicate for each school and for the district as a whole the breakdown (in percentage terms) of total costs among instruction and related services and school, program and district administration and support services. In our sample, 58.22% of total costs was allocated to instruction and related services, while 16.82%, 3.74% and 21.22% were allocated to school, program and district administration and support services.

C. RESOURCE COSTS AND QUANTITIES BY PROGRAM, SERVICE AND OBJECT.

But how do these total costs actually break down among programs, services and resources? Tables II-6 and II-7 provide samples of total and average cost data by program, service and resource categories. In Table II-6, the names and descriptions of each of the programs are listed along with the category and service codes which identify each program or service. The data of most significance is displayed in the last three columns: the total cost (budget) for the program or service, the per pupil cost, and the number of program units. The sample information in Tables II-6 and II-7 represent district totals or overall averages. As an example, our sample district is budgeting $766,455 for self contained kindergarten classrooms (i.e., see the second program named KG_SCR in Table II-6) around the district. This program costs, on average, $1,279.56 per pupil enrolled and there are 23 such classes operating within the district. Similar information for each program provided at each school site is also produced by the model so that costs may be compared across school sites as well as across programs. In Table II-6, similar cost data are presented for the school, program and district administration and support services. For example, our sample district is budgeting $1,282,695 for elementary school general administration (i.e., see the school administration and support named ELEM_SCHO). This amounts to $354.73 per pupil enrolled and includes 11 elementary schools around the district.

Table II-7 presents a sample set of EDUCATIONAL COST PROFILES FOR SPECIFIED TYPES OF STUDENTS. These profiles are collections of programs and services that would be attributed to a specific type of student. Four prototype students were selected for this

example: a regular third grade pupil, a regular third grade pupil requiring speech, a regular high school pupil, and a high school student taking business courses. The respective per pupil costs for these four types of students are $2,282, $3,481, $2,843, and $2,891, respectively. Costs are broken out among the relevant programs and services within each of the four CLASSES OF DELIVERY SYSTEMS.

Table II-8 presents the total and per pupil educational costs by object code (resource type). The resources are broken down within the four CLASSES OF DELIVERY SYSTEMS referred to above. But these cost data are in a form similar to that commonly used to report school district expenditures to the state. These data are less useful for decision making purposes. But are necessary for producing certain required state reports. From Table II-8, we can see that our sample district spends $12,424,681 on teachers. This translates into $1,504.20 per pupil for 398.625 FTE (full-time-equivalent) teachers.

8. BUDGET REPORTS

Once having evaluated program and service costs and having produced budget data by object codes for state reports, the district officials then have to produce program budgets for each school. These program budgets should provide breakdowns of the individual program budgets by object code. These budgets then become the guide for school administrators. These budgets provide the benchmark against which current expenditures can be compared and they provide a starting point for budget planning at the school site.

Table II-9 presents a sample of a school site program budget for four sample programs. This Table presents a sample budget for Accelerated English (grade) 7, General Eng./Lang. Arts 7, Basic English 8, and Accelerated English 8 for the school identified as SCH_ID=001. (The WORKUNIT CODE identifies the CLASS OF DELIVERY SYSTEM.) These program budgets designate the amounts budgeted by object code along with the quantities of various resources to be utilized. In our sample, 0.4 FTE teachers have been budgeted for Accelerated English 7 at a cost of $12,614.58 (including salaries and benefits).

Table II-10 presents a sample of the school administrative and support service budgets for SCH_ID=001. The service units included are Middle School -- General administration, Middle School -- library, and Middle School Counseling Service. Table II-11 presents sample budgets for district level administrative and support services which are broken down in the same basic fashion by service unit or division within the district. The sample district administration and support services include general district administration, business and fiscal services -- district wide, and the personnel divisions.

TOTAL AND AVERAGE COSTS FOR PROGRAM AND SERVICES

DISTRICT: ALAMEDA UNIFIED SCH DISTRICT
LOCATION: DISTRICT TOTALS

NAME DESCRIPTION	CATEGORY CODE	SERVICE CODE	TOTAL COST	PER PUPIL COST	# PROGRAM UNITS
INSTRUCTIONAL PROGRAMS AND RELATED SERVICES					
01_EK70 : Early Entry Kindergarten	01-1-K01	0100-01	$1,963	$950.75	2.00
01_SCK : Self-Contained Kindergarten	01-1-K01	0100-02	$766,955	$1,279.56	23.00
01_SC13 : Self-Contained 1-3	01-1-K01	0100-04	$1,975,020	$1,159.73	58.00
01_SC45 : Self-contained 4-5	01-1-K01	0100-05	$1,982,581	$1,203.41	35.00
01_COMB45 : Combination Class 4-5	01-1-K01	0100-08	$398,463	$1,269.67	10.00
01_PE45 : Release Time P.E. 4-5	01-1-K01	0100-10	$300	$0.32	40.00
ELMUS_45 : Elementary Music K-5	01-1-K01	0100-11	$49,567	$13.87	1.00
01DRAMA7 : Drama 7-8	02-1-K01	0200	$13,537	$149.75	4.00
01DRAMA6 : Drama 6	02-1-K01	0206	$8,963	$112.19	2.00
01PUBLIC : Publications 7-8	02-1-K01	0210	$10,276	$107.04	3.00
01READLAB : Reading Lab 7-8	02-1-K01	0400	$15,768	$213.08	5.00
01BASREAD : Basic Reading 6	02-1-K01	0402	$26,977	$281.01	6.00
01ACCREAD : Accelerated Reading 6	02-1-K01	0403	$13,473	$220.96	2.00
01GENREAD : General Reading 6	02-1-K01	0404	$33,644	$239.61	5.00
01SCREAD : Self-Contained Reading 6	02-1-K01	0405	$16,963	$306.23	2.00
01SCCREAD : Self-Cont. Reading, Accelerated 6	02-1-K01	0405	$16,963	$285.48	2.00
01BIOLOGY : Biology	02-1-K01	0500	$8,631	$240.39	1.00
01ESL 6-8 : ESL 6-8	02-1-K01	0600	$6,773	$521.02	1.00
01BASENG : Basic English 6	02-1-K01	0700	$6,962	$197.63	1.00
01ACCENG : Accelerated English 6	02-1-K01	0701	$27,733	$220.20	4.00
01_GEN2 : General Eng./Lang. Arts 6	02-1-K01	0702	$69,307	$235.56	10.00
01SCENG : Self-Contained Eng./Lang. Arts 6	02-1-K01	0705	$16,963	$306.23	2.00
01SCCENG : Self-Cont. English, Accelerated 6	02-1-K01	0705	$16,963	$285.48	2.00
01BASENG7 : Basic English 7	02-1-K01	0710	$13,978	$301.91	2.00
01ACCENG7 : Accelerated English 7	02-1-K01	0711	$34,680	$219.17	5.00
01_GEN7 : General Eng./Lang. Arts 7	02-1-K01	0712	$80,017	$252.86	13.00
01SCENG : Self-Contained Eng./Lang A. 7Core	02-1-K01	0714	$16,955	$306.67	1.00
01BASENG8 : Basic English 8	02-1-K01	0720	$20,678	$609.56	3.00
01ACCENG8 : Accelerated English 8	02-1-K01	0721	$27,994	$209.34	5.00
01_GEN8 : General Eng./Lang. Arts 8	02-1-K01	0722	$97,080	$229.82	14.00
01SCENG8 : Self-Contained Eng./Lang A. 8Core	02-1-K01	0724	$33,940	$584.86	2.00
01ALG : Algebra	02-1-K01	0801	$13,335	$166.10	3.00
01PREALG : Pre Algebra 7-8	02-1-K01	0811	$33,579	$204.31	6.00
01BASMAT : Basic Math 6	02-1-K01	0820	$33,058	$330.58	5.00
01ACCMATH : Accelerated Math 6	02-1-K01	0821	$26,695	$222.45	4.00
01GENMATH : General Math 6	02-1-K01	0822	$50,229	$235.87	9.00
01SCMAT : Self-Contained Math 6	02-1-K01	0825	$16,963	$306.23	2.00
01SCCMATH : Self-Cont. Math Accelerated 6	02-1-K01	0825	$16,963	$285.48	2.00
01BASMAT7 : Basic Math 7	02-1-K01	0830	$26,627	$362.02	4.00
01ACCMATH7 : Accelerated Math 7	02-1-K01	0831	$19,870	$223.26	3.00
01GENMAT7 : General Math 7	02-1-K01	0832	$72,460	$219.58	11.00
01SCCMATE : Self-Contained Math 7 Core	02-1-K01	0834	$16,955	$306.67	1.00
01BASMAT8 : Basic Math 8	02-1-K01	0840	$19,840	$330.66	3.00
01ACCMATH : Accelerated Math 8	02-1-K01	0841	$6,627	$243.78	1.00
01GENMAT8 : General Math 8	02-1-K01	0842	$70,081	$212.60	10.00

TOTAL AND AVERAGE COSTS FOR PROGRAM AND SERVICES

DISTRICT: ALAMEDA UNIFIED SCH DISTRICT
LOCATION: DISTRICT TOTALS

NAME: DESCRIPTION	CATEGORY CODE:	SERVICE CODE:	TOTAL COST	PER PUPIL COST	# PROGRM UNITS
SCHOOL ADMINISTRATION AND SUPPORT SERVICES					
ELEM_SCH: Elementary School (Genl Adm)	01-3-490		$1,282,695	$354.73	11.00
ELEM_LIB: Elementary Library	01-3-490	470	$216,480	$59.87	11.00
MID_SCH : Middle School--Genl Admin	02-3-490		$610,595	$336.97	3.00
MS_LIB : Middle School - Library	02-3-490	470	$39,821	$21.98	3.00
MS_COUN : Middle School Counseling Service	02-3-490	620	$106,608	$58.83	3.00
MS_KTCHN: Middle Schools Supplemental/w/Kitchen	02-3-490	840	.	.	2.00
FOOD_ELE: Food Service- Production - Elem	02-3-840		$615,043	$203.93	2.00
HS_LIB : High School - Library	03-5-490	470	$108,466	$47.14	2.00
HS_AHS : High School - Genl Admin - AHS	03-5-490	490-22	$648,045	$503.53	1.00
HIGH_SCH: High School--Genl Admin--EHS	03-5-490	490-23	$627,824	$619.16	1.00
FOOD_HS : Food Service - Production - HS	03-5-840		$275,485	$297.50	2.00
CONTHIGH: Island High	10-5-490		$137,179	$513.78	1.00
PROGRAM ADMINISTRATION AND SUPPORT SERVICES					
CDC : Child Development Center	04-1-552		$133,879	$637.52	
CDC_FOOD: Child Develop. Cntr--Food Service	04-1-552	1	$71,207	$339.08	
SPEC_ED : Special Ed. General	05-2-300		$645,644	$846.19	
SERESRM : Sp Ed. Resource Room	05-2-300	1	$16,223	$21.26	
GATE_EDS: GATE- Ed.Srv. Resources	06-3-543	1	$5,000	$25.64	
LEP : LEP (Limited English Proficient)	07-9-511		$12,579	$23.00	
ROP : ROP	08-6-104		$68,352	$194.73	
JTPA : Joint Training Partnership Act	08-6-104	01	$5,966	$35.10	
DRV_TRNG: Driver Training	12-5-126		$21,483	$44.29	
VOC_ED : Vocational Education	13-5-509		$32,174	$53.62	
SIP : School Improvement Plan (SIP)	15-3-540		$11,016	$1,573.78	
CHAPTI : Chapter I	16-3-526		$14,810	$21.62	
DISTRICT ADMINISTRATION AND SUPPORT SERVICES					
GEN_ADM : Gen. District Admin.	01-9-710		$192,635	$23.18	.
COMMNTY : Community Services	01-9-810		$4,931	$0.59	.
BF_BUSSV: Business/Fiscal- Business Services	02-9-725		$565,628	$68.06	.
BF_DIST : Business/Fiscal - District Wide	02-9-725	726	$1,812,272	$218.06	.
PERSNLL : Personnel	03-9-719		$185,970	$22.38	.
EDUC_SRV: Educational Services	04-9-425		$183,309	$22.06	.
EDSHPES : P.E./ Ath / Health / Safety	04-9-425	163	$40,059	$4.82	.
ESCURINS: Educ. Ser.--Cur. Dev./Inserv	04-9-425	440	$138,369	$16.65	.
EDS_TRC : Educ. Ser. T.R.C.	04-9-425	471-01	$151,176	$18.19	.
ED_TEST : Educ. Ser.- Testing	04-9-425	471-02	$17,770	$2.14	.
EDS_COPY: Educ. Ser. Duplicating	04-9-425	733	$17,073	$2.05	.
EDS_CHPT: Chapter II	04-9-526	526-02	$67,911	$8.17	.
PUPILPER: Pupil Personnel Services	05-9-692		$98,762	$11.88	.
PP_PSYCH: Pupil Pers--Psych. Servs	05-9-692	630	$175,142	$21.07	.
PPHEALTH: Pupil Pers--Health Srvs	05-9-692	640	$183,770	$22.11	.
EMOT : Maintenance & Operations	06-9-750		$1,013,821	$121.99	.
EMOT_H2O: District Utilities - Water	06-9-775	001	$57,537	$6.92	.
EMOT_GAS: District Utilities - Gas	06-9-775	002	$253,882	$30.55	.
EMOTELEC: District Utilities - Electric	06-9-775	003	$313,275	$37.69	.

TABLE II-7
EDUCATIONAL COST PROFILES FOR SPECIFIED TYPES OF STUDENTS

CATEGORY CODE	SERVICE CODE	DESCRIPTION OF PROGRAM OR SERVICE	PER PUPIL COSTS OF SERVICES BY TYPE OF STUDENT REG 3RD GR PUPIL	REG 3RD GR W/ SPEECH	REG HIGH SCH PUPIL	HIGH SCH W/ BUS. CRS
INSTRUCTIONAL PROGRAMS AND RELATED SERVICES						
01-3-101	000-04	Self-Contained 1-3	$1,160	$1,160	.	.
01-3-101	000-11	Elementary Music K-5	$14	$14	.	.
03-5-101	128-08	English 2G	.	.	$225	$225
03-5-101	150-05-23	Spanish II	.	.	$234	$234
03-5-101	190-14-23	Geometry - EHS (1yr)	.	.	$205	$205
03-5-101	230-01	Physical Education	.	.	$307	$307
03-5-101	235-14-23	Health - EHS	.	.	$262	.
03-5-101	250-03-23	Modern World History (2CP + 2G) EHS	.	.	$249	.
05-2-300	312-01	Speech Therapy	.	$352	.	.
13-5-509	115-01-23	Accounting	.	.	.	$303
13-5-509	115-03-23	Intermediate Typing	.	.	.	$256
TOTAL COST, INSTRUCTIONAL PROGRAMS AND RELATED SERVICES:			$1,174	$1,526	$1,482	$1,530
SCHOOL ADMINISTRATION AND SUPPORT SERVICES						
01-3-490		Elementary School (Genl Adm)	$355	$355	.	.
01-3-490	470	Elementary Library	$60	$60	.	.
03-5-490	470	High School - Library	.	.	$47	$47
03-5-490	490-23	High School--Genl Admin--EHS	.	.	$619	$619
TOTAL COST, SCHOOL ADMINISTRATION AND SUPPORT SERVICES:			$415	$415	$666	$666
PROGRAM ADMINISTRATION AND SUPPORT SERVICES						
05-2-300		Special Ed. General	.	$846	.	.
TOTAL COST, PROGRAM ADMINISTRATION AND SUPPORT SERVICES:			$0	$846	$0	$0
DISTRICT ADMINISTRATION AND SUPPORT SERVICES						
01-9-710		Gen. District Admin.	$23	$23	$23	$23
01-9-810		Community Services	$1	$1	$1	$1
02-9-725		Business/Fiscal- Business Services	$68	$68	$68	$68
02-9-725	726	Business/Fiscal - District Wide	$218	$218	$218	$218
03-9-719		Personnel	$22	$22	$22	$22
04-9-425		Educational Services	$22	$22	$22	$22
04-9-425	163	P.E./ Ath / Health / Safety	$5	$5	$5	$5
04-9-425	440	Educ. Ser.--Cur. Dev./Inserv	$17	$17	$17	$17
04-9-425	471-01	Educ. Ser. T.R.C.	$18	$18	$18	$18
04-9-425	471-02	Educ. Ser.- Testing	$2	$2	$2	$2
04-9-425	733	Educ. Ser. Duplicating	$2	$2	$2	$2
04-9-526	526-02	Chapter II	$8	$8	$8	$8
05-9-692		Pupil Personnel Services	$12	$12	$12	$12
05-9-692	630	Pupil Pers--Psych. Servs	$21	$21	$21	$21
05-9-692	640	Pupil Pers--Health Srvs	$22	$22	$22	$22
06-9-750		Maintenance & Operations	$122	$122	$122	$122
06-9-775	001	District Utilities - Water	$7	$7	$7	$7
06-9-775	002	District Utilities - Gas	$31	$31	$31	$31
06-9-775	003	District Utilities - Electric	$38	$38	$38	$38
08-9-730		Data Processing	$35	$35	$35	$35
TOTAL COST, DISTRICT ADMINISTRATION AND SUPPORT SERVICES:			$694	$694	$694	$694
TOTAL COST OF EDUCATIONAL SERVICES:			$2,282	$3,481	$2,843	$2,891

TABLE II-8

SIMULATION SEQUENCE NO.: 01

TOTAL AND AVERAGE COSTS BY RESOURCE CLASSIFICATION FOR
DISTRICT: ALAMEDA UNIFIED SCH DISTRICT
LOCATION: DISTRICT TOTALS

NAME: DESCRIPTION	OBJECT CODE:	TOTAL COST	PER PUPIL COST	TOTAL QUANTITY
RESOURCES FOR INSTRUCTIONAL PROGRAMS AND RELATED SERVICES				
I_TCHCLR: CLASSROOM TEACHER	1110	$12,424,681	$1,504.20	398.625 FTE
I_TCHSUB: SUBST TEACHER	1171	$5,211	$0.63	115.8 DAYS/YR
I_TCHHRS: HOURLY TEACHER	1180	$95,279	$11.53	5907 HRS/YR
I_HLTHRS: HOURLY HEALTH EMPLOYEE	1680	$1,863	$0.23	112 HRS/YR
I_OCESUD: SUBST-OTHER CERTIFIED	1970	$1,000	$0.12	1000 $/YR
I_AIDREH: REGULAR AIDE-HRLY	2110	$542,434	$65.67	23866.7 HRS/YR
I_IAIHRS: HOURLY AIDE	2180	$584,939	$70.82	57057 HRS/YR
I_COACH2: COACHING	2919	$87,212	$10.56	98 109
I_NOONDA: NOON DUTY ASSISTANT	2930	$6,542	$0.79	1433 HRS/YR
I_TXTBK1: TEXTBOOKS	4110	$7,815	$0.95	7815 $/YR
I_TXTBK2: TEXTBOOKS	4110	$198,791	$24.07	198791 SU $
I_SUPBKS: SUPPL TEXTBOOKS	4120	$1,250	$0.15	1250 $/YR
I_OBK_01: BOOKS OTHER THAN TXTBKS	4210	$14,430	$1.75	14429.75 $/YR
I_OBK_02: BOOKS OTHER THAN TXTBKS	4210	$53,867	$6.52	53866.5 SU $
I_ISU_A : INSTRUCTIONAL SUPPLIES	4310	$667,893	$80.86	667892.5 $/YR
I_ISU_S : INSTRUCTIONAL SUPPLIES	4310	$36,352	$4.40	36352 SU $
I_OISUP : SUPPLIES	4317	$497	$0.06	497 $/YR
I_ISUO11: PERIODCLS-MGZN SUBSCRIP	4320	$2,095	$0.25	2094.5 $/YR
I_ISUO15: WORKBOOKS	4330	$80,241	$9.71	80240.5 $/YR
I_WKBKSU: WORKBOOKS	4330	$1	$0.00	1 SU $
I_FTFEE1: FIELD TRIP FEES 7/83	4383	$382	$0.05	382 $/YR
I_OSUO01: OTHER SUPPLIES	4500	$2,700	$0.33	2700 $/YR
I_OSUO13: POSTAGE	4521	$30	$0.00	30 $/YR
I_OSUO46: EQUIP REPAIR PARTS-INSTR	4561	$46,385	$5.62	46385 $/YR
I_OSUO51: EQUIP REP PARTS-NON INSTR	4562	$3,770	$0.46	3770 $/YR
I_OSUO79: VEHICLE OPERATION COSTS	4576	$5,627	$0.68	5627 $/YR
I_FSFOO1: FOOD	4710	$432	$0.05	432 $/YR
I_FSSO21: SERVICES OTHER OPER EXP	5000	$400	$0.05	400 $/YR
I_CPSOO2: CONTRACTS/SERVICES	5110	$38,250	$4.63	38250 $/YR
I_TRVOO1: TRAVEL AND CONFERENCE	5200	$20,749	$2.51	20748.75 $/YR
I_UTLOO1: UTILITIES AND OPERATIONS	5500	$17,438	$2.11	17438 $/YR
I_CONO04: EQUIPMENT RENTAL/LEASE	5611	$2,000	$0.24	2000 $/YR
I_CONO09: BUILD RENT/LEASE	5615	$1,200	$0.15	1200 $/YR
I_CONO35: MAINT AGREEMENT-INSTR	5661	$15,000	$1.82	15000 $/YR
I_CONO53: DUPLICATING	5681	$3,300	$0.40	3300 $/YR
I_CONO57: TRANSPORT-CONTRACT	5686	$2,475	$0.30	2475 $/YR
I_OSEO31: COMMON CARRIER 7/83	5889	$1,350	$0.16	1350 $/YR
I_OSEO41: INTERPROG CHARGES,CREDITS	5900	$3,850	$0.47	3850 $/YR
I_EQRO02: INSTRTNL EQUIPMNT REPL	6510	$465,926	$56.41	465925.5 SU $
I_EQRO03: INSTRTNL EQUIPMNT REPL	6510	$96,708	$11.71	96708 $/YR
I_EQRO37: NON-INSTR EQUIP REPLACEM	6520	$598	$0.07	598 SU $
I_TRFCH1: ECIA TITLE I CH 1	8161	$560,800	$67.89	560800 $/YR
I_TRSSIP: SCH IMPRVMNT & STAFF DEV	8625	$54,187	$6.56	54187.2 $/YR
RESOURCES FOR SCHOOL ADMINISTRATION AND SUPPORT SERVICES				
S_PRIN : PRINCIPALS	1210	$780,140	$94.45	17 FTE
S_VICPRN: VICE PRINCIPALS	1220	$301,372	$36.49	7 FTE
S_LIBR : LIBRARIAN	1410	$66,028	$7.99	2 FTE

TABLE II-9
SAMPLE PROGRAM BUDGETS FOR INSTRUCTIONAL PROGRAMS
FOR SCH_ID=001

SERVICE DESCRIPTION=Basic English 7

CATEGORY CODE	SERVICE CODE	RESOURCE DESCRIPTION	OBJ CODE	BUDGET	QUANTITY	UNIT OF MEAS.
02-3-101	EZ70	TOTAL BUDGET		$6,934.29	.	.
02-3-101	EZ70	CLASSROOM TEACHER	1110	$6,307.29	0.2	101
02-3-101	EZ70	TEXTBOOKS	4110	$369.00	369.0	301
02-3-101	EZ70	BOOKS OTHER THAN TXTBKS	4210	$123.00	123.0	301
02-3-101	EZ70	INSTRUCTIONAL SUPPLIES	4310	$92.00	92.0	201
02-3-101	EZ70	INSTRTNL EQUIPMNT REPL	6510	$43.00	43.0	301

SERVICE DESCRIPTION=General Eng./Lang. Arts 7

CATEGORY CODE	SERVICE CODE	RESOURCE DESCRIPTION	OBJ CODE	BUDGET	QUANTITY	UNIT OF MEAS.
02-3-101	EZ72	TOTAL BUDGET		$20,763.88	.	.
02-3-101	EZ72	CLASSROOM TEACHER	1110	$18,921.88	0.6	101
02-3-101	EZ72	TEXTBOOKS	4110	$1,107.00	1107.0	301
02-3-101	EZ72	BOOKS OTHER THAN TXTBKS	4210	$369.00	369.0	301
02-3-101	EZ72	INSTRUCTIONAL SUPPLIES	4310	$237.00	237.0	201
02-3-101	EZ72	INSTRTNL EQUIPMNT REPL	6510	$129.00	129.0	301

SERVICE DESCRIPTION=Basic English 8

CATEGORY CODE	SERVICE CODE	RESOURCE DESCRIPTION	OBJ CODE	BUDGET	QUANTITY	UNIT OF MEAS.
02-3-101	EZ80	TOTAL BUDGET		$6,926.29	.	.
02-3-101	EZ80	CLASSROOM TEACHER	1110	$6,307.29	0.2	101
02-3-101	EZ80	TEXTBOOKS	4110	$369.00	369.0	301
02-3-101	EZ80	BOOKS OTHER THAN TXTBKS	4210	$123.00	123.0	301
02-3-101	EZ80	INSTRUCTIONAL SUPPLIES	4310	$84.00	84.0	201
02-3-101	EZ80	INSTRTNL EQUIPMNT REPL	6510	$43.00	43.0	301

SERVICE DESCRIPTION=General Eng./Lang. Arts 8

CATEGORY CODE	SERVICE CODE	RESOURCE DESCRIPTION	OBJ CODE	BUDGET	QUANTITY	UNIT OF MEAS.
02-3-101	EZ82	TOTAL BUDGET		$27,741.17	.	.
02-3-101	EZ82	CLASSROOM TEACHER	1110	$25,229.17	0.8	101
02-3-101	EZ82	TEXTBOOKS	4110	$1,476.00	1476.0	301
02-3-101	EZ82	BOOKS OTHER THAN TXTBKS	4210	$492.00	492.0	301
02-3-101	EZ82	INSTRUCTIONAL SUPPLIES	4310	$372.00	372.0	201
02-3-101	EZ82	INSTRTNL EQUIPMNT REPL	6510	$172.00	172.0	301

TABLE II-10
SAMPLE PROGRAM BUDGETS FOR SCHOOL ADMINISTRATION AND SUPPORT SERVICES
FOR SCH_ID=001

SERVICE DESCRIPTION=Middle SchoolGenl Admin

CATEGORY CODE	SERVICE CODE	RESOURCE DESCRIPTION	OBJ CODE	BUDGET	QUANTITY	UNIT OF MEAS.
02-3-490		TOTAL BUDGET		$195,995.93	.	
02-3-490		PRINCIPALS	1210	$48,479.50	1	101
02-3-490		VICE PRINCIPALS	1220	$41,323.47	1	101
02-3-490		SECRETARY	2310	$16,126.32	10	105
02-3-490		Clerk-Typist	2311	$15,770.97	10	105
02-3-490		CUSTODIAN	2410	$66,795.67	36	105
02-3-490		EQUIP REP PARTS-NON INSTR	4562	$2,000.00	2000	201
02-3-490		CONTRACTED SERVICE-DUPL	5611	$5,500.00	10	105

SERVICE DESCRIPTION=Middle School Library

CATEGORY CODE	SERVICE CODE	RESOURCE DESCRIPTION	OBJ CODE	BUDGET	QUANTITY	UNIT OF MEAS.
02-3-490	470	TOTAL BUDGET		$12,803.80	.	.
02-3-490	470	HOURLY AIDE	2180	$11,503.80	720	102
02-3-490	470	PERIODCLS-MGZN SUBSCRIP	4320	$1,050.00	1050	201
02-3-490	470	OFFICE SUPPLIES	4520	$250.00	250	201

SERVICE DESCRIPTION=Middle School Counseling Service

CATEGORY CODE	SERVICE CODE	RESOURCE DESCRIPTION	OBJ CODE	BUDGET	QUANTITY	UNIT OF MEAS.
02-3-490	620	TOTAL BUDGET		$35,536.13	.	.
02-3-490	620	COUNSELOR	1510	$35,536.13	1	101

CHAPTER III

THE STRUCTURE OF THE RIM COMPUTER SIMULATION PROGRAM

Implementation of the RIM computer program requires two major tasks:

- DEVELOPMENT OF THE RIM DATABASE
- INSTALLATION OF THE COMPUTER PROGRAM

The purpose of this Chapter is to provide an overview of these two tasks. Development of the RIM database involves the completion of a series of RIM worksheets designed for collecting data on educational program and service delivery systems, student enrollments for these programs and services, and resource costs. The procedures for gathering these data are outlined in six steps in Section B of this Chapter. The overall structure of the RIM database is described in Section B and the structure of the RIM computer program is presented in Section C. Each of the elements treated in this Chapter is elaborated upon in more detail in subsequent Chapters in this volume.

B. DEVELOPMENT OF THE RIM DATABASE

The RIM requires the development of a database in three basic areas:

(1) Program and Service Delivery Systems;

(2) Student Enrollments or Service Levels for these Program and Service Delivery Systems;

(3) Resource Costs.

Figure III-1 is a Flow Diagram describing the RIM computer simulation program and how the various data elements fit into the model. The number of boxes in this diagram also reflects to some degree the sequence of activities and the order in which data are created and become available in the process of implementing the computer simulation program. Each of the boxes in the diagram is elaborated upon below.

There are six major elements included in the RIM database. These six elements and the tasks necessary for their development are listed and described below. The tasks are listed in the approximate sequence in which they should be carried out. This sequence of tasks is designed to facilitate the implementation of the model in the most efficient manner. The subsequent Chapters of this technical manual contain the details required to carry out each of the associated data collection activities.

1. LIST OF PROGRAMS AND SERVICES. The first step in the process of developing the RCM database is to create a initial list of programs and services. There are two components to this task:

- o DEVELOP PROGRAM AND SERVICE DESCRIPTIONS
- o DEVELOP A CODING STRUCTURE FOR PROGRAMS AND SERVICES

The major purpose of this initial list is to provide an overall guide to those individuals given the ultimate responsibility for specifying the program and service delivery systems. This initial list should be a compilation of all of the program and service delivery systems that are used to provide instructional programs and related services as well as administration and support services at the school, program and district level. The list should include all courses, classes, and special services to students and the service units and divisions established for administering and supporting these direct pupil services. Some examples of programs and services would be a selfcontained third grade classroom for regular students, a basic English Class for grades 9-12, a speech therapist for speech impaired students, general elementary school administration, business services, and the personnel division. The word "initial" is used here because as the process of specifying program and service delivery systems proceeds, program professionals often find the need to revise the initial list to better reflect local district operations. This process of revision occurs under item 3 below.

The second item involves developing a coding structure to facilitate the process of specification. The process of developing the list of programs and services provides some initial structure to the specification activity. The development of a coding structure helps to formalize this structure and simplifies data collection activities later on in the process.

2. LIST OF RESOURCES. The second step in this process is to develop a comprehensive list of resources that may be used in specifying program and service delivery systems. There are four components to this step.

- o DEVELOP A LIST OF RESOURCE DESCRIPTIONS
- o DEVELOP A CODING STRUCTURE FOR THE RESOURCES
- o ESTABLISH UNITS OF MEASUREMENT
- o ESTABLISH APPROACH TO DETERMINATION OF RESOURCE COSTS

Program and service delivery systems are ultimately made up of configurations of resources (e.g., teachers, administrators, classified personnel, energy services, supplies and materials, and capital equipment). The resource list provides a

guideline for those program professionals responsible for specifying the delivery systems for programs and services. The first component of this task is simply to develop descriptions of the kinds of resources that may be used in specifying programs and services. This establishes an initial level of detail for the resource specifications for each program or service.

The second component involves development of a coding structure for resources. This coding structure can usually be derived from standard accounting manuals or practices already in existence within the agency using the model.

The third element involves establishing the units of measurement in which resources may be specified. For example, teachers might be specified in terms of full-time-equivalents (commonly abbreviated FTE) or hours per year. Non-personnel resources may be specified in dollars or in quantities. These options need to be spelled out and understood so that standard practices can be established.

The fourth and final component involves thinking through the alternative ways for entering resource cost data into the model and establishing some standard procedures for each category of resource. Resource costs may enter the model through in following three places in order of precedence:

1 - the delivery system specifications (box 3)
2 - the employee assignment and payroll information file (box 5)
3 - resource list (box 2)

The desired level of precision in making cost calculations and the availability of detail on resource cost information are two factors in making the determination regarding how resource costs will be determined. Resource costs may come from different sources for different classes of resources. The resource list has the lowest priority in the assignment of resource cost data, but for some applications of the RCM is the easiest and best way of entering this information. When the RCM is used to support the SFPM (the state model) or a national cost analysis, the resource list is the preferred way of entering cost data. The employee assignment and payroll information file is probably preferred for application to the EPSM (the local implementation). For categories of resources such as textbooks that are likely to be unique to programs, the resources would be specified either in dollar terms or the prices would be entered directly in the delivery system specifications.

3. PROGRAM AND SERVICE DELIVERY SYSTEMS. This step represents the heart of the data collection activities because the program and service delivery systems form the basis for the cost analysis that is derived from the RCM. This activity consists of three components:

- REFINING THE LISTS OF PROGRAMS AND SERVICES
- ESTABLISHING SIZE PARAMETERS FOR PROGRAMS
- SPECIFYING RESOURCE CONFIGURATIONS

Refining the list of programs and services involves a simple review and evaluation procedure to ensure that all programs have been listed in the initial round and that the descriptions are adequate for the purpose at hand. This refinement process will also be interrelated to the other component tasks.

The second component of this task is to establish boundaries for the size parameters for all programs. This involves setting limits on the minimum and maximum sizes of classes, courses and case loads and course loads for teaching personnel. Specific parameters for given classes and courses should be refined as part of the final component of this step.

The final component involves the listing of resources and resource requirements necessary to provide any given program or service within the size parameters established. The general size parameters established in the second component of this task may then be reviewed in context of the resource configurations for the program or service in question.

4. ENROLLMENT AND SERVICE LEVEL DATA. The fourth step in the process involves gathering enrollment and service level data for each of the program and service delivery systems for each unit of observation. This step involves two components:

- ESTABLISH THE UNIT OF OBSERVATION
- GATHER ENROLLMENT AND SERVICE LEVEL DATA

The unit of observation may be either the school or the school district. Which unit of observation is selected will depend upon the desired level of precision, the level of detail for budget and cost analysis, and whether or not data on actual units of service might be available at the district level. For national or state level applications of the RCM either school or district level data may be used, while for local applications school level data are more likely to be appropriate. Gathering enrollment and service level data involves determining for each unit of observation how many students or student units are being provided service in each program and even possibly how many of these program service units are being provided.

5. EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION. This item of data is most likely to be used in local applications. It basically involves adapting existing payroll information files to this specific purpose. It involves three components.

- GATHERING SALARY SCHEDULE INFORMATION

- GATHERING BENEFIT SCHEDULES AND COSTS
- COMBINING EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION

The first component simply involves gathering all of the salary schedules for the different classes of employees in the agency and organizing these data into a structured and coded salary schedule file. The second component involves a comparable activity for all of the health and welfare, retirement and other elements of fringe benefits and employee payroll taxes into a structured and coded benefit schedule file. The final component involves gathering existing employee assignment and payroll information into a single file which may be used to match employee assignments with salaries and benefits. This file may be used by the RCM to compute total personnel costs according to a variety of levels of aggregation. Each assignment in this instance may be associated not only with a resource class, but also with a particular program or service. Thus, resource costs may be determined simply by class of resource or by class of resource within programs and services. All of these levels of aggregation are possible within the RCM program. On the other hand, for certain applications, this step may be skipped altogether. Resource costs in this instance might be derived exclusively from the resource list (box 2) or the delivery system specifications (box 3).

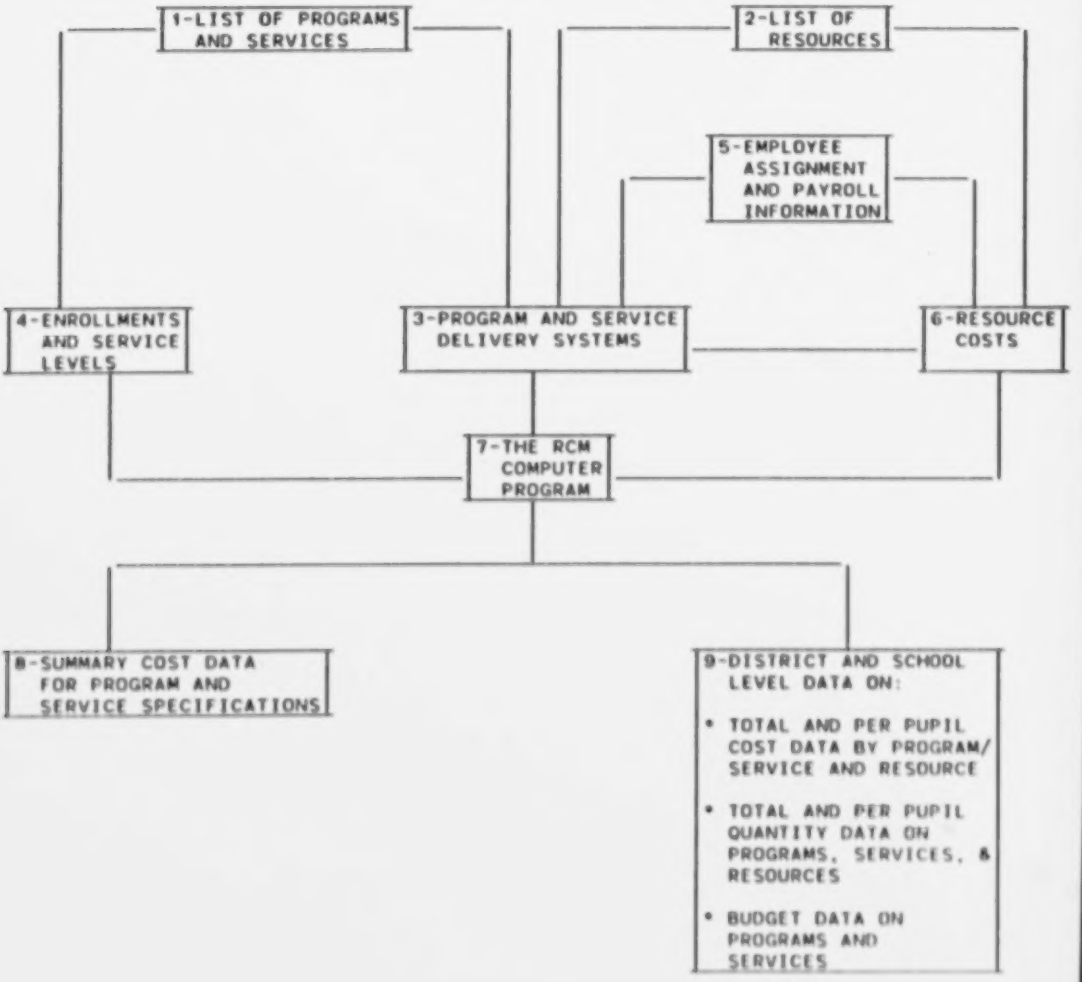
6. RESOURCE COSTS. For the most part, the determination of resource costs is made from among information entered in steps 2, 3 and 5. However, in some applications of the RCM, it may be desirable to adjust average resource prices by resource type for geographic differences in the costs of comparable resources. This is commonly referred to as cost of education adjustments in the school finance literature. Such resource cost adjustments may be accomplished through the development of a series of cost indices and incorporated into the RCM data base for analysis. This kind of resource cost adjustment would almost exclusively be relevant to a state or national level cost study. Resource cost indices are generally developed using statistical analyses or other simulation models separate from the RCM. No attention is paid in this manual to the computation of these indices.<1> However, Chapter IX does devote attention to how such cost indices may be entered into the RCM computer model.

In summary then, this step involves two subtasks. These are:

- A STATISTICAL AND/OR SIMULATED COST ANALYSIS FOR CATEGORIES OF RESOURCES ACROSS GEOGRAPHIC AREAS.
- AN ORGANIZATION OF THESE DATA FOR ENTRY INTO THE RCM DATABASE.

FIGURE III-1

FLOW DIAGRAM OF THE RCM COMPUTER PROGRAM


1-LIST OF PROGRAMS AND SERVICES
2-LIST OF RESOURCES
5-EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION
4-ENROLLMENTS AND SERVICE LEVELS
3-PROGRAM AND SERVICE DELIVERY SYSTEMS
6-RESOURCE COSTS
7-THE RCM COMPUTER PROGRAM
8-SUMMARY COST DATA FOR PROGRAM AND SERVICE SPECIFICATIONS
9-DISTRICT AND SCHOOL LEVEL DATA ON:
• TOTAL AND PER PUPIL COST DATA BY PROGRAM/ SERVICE AND RESOURCE
• TOTAL AND PER PUPIL QUANTITY DATA ON PROGRAMS, SERVICES, & RESOURCES
• BUDGET DATA ON PROGRAMS AND SERVICES

B. STRUCTURE OF THE RCM DATABASE

A series of worksheets or data collection instruments has been designed to facilitate the data collection activity described in Section B above. The RCM Worksheets are outlined below in connection with an overview of the structure of the RCM database. The RCM Worksheets and database are introduced within the context of each of the relevant steps outline above.

The first step in building the RCM database is to create two data libraries: DISTRAW and RCMRAWyy where yy is the sequence number used to identify the version of RCMRAW being used. The sequence number allows the user to save different version of the RCMRAW database if desired, although it is not necessary. Both of these data libraries are fixed block partitioned databases which will contain the raw data used by the RCM computer program. The directories and dataset descriptions for these two data libraries DISTRAW and RCMRAWyy are displayed in Tables III-1 and III-2, respectively.

The data library DISTRAW contains the enrollment file, resource cost data, and the employee assignment and payroll information files. These datasets represent baseline data on students being served and the employees within the district. These files would generally updated on an annual basis to reflect current patterns of service and employee assignments.

The data library RCMRAWyy contains the delivery systems for providing educational programs and services derived from Step 3 outlined above. The specification of the program and service delivery systems represents the most changeable aspect of the process of analysis. These delivery system configurations represent one of the major points of focus of the cost analysis and simulations. It is ultimately through modifications of these program and service delivery systems that the user will seek to achieve a balance between projected revenues and costs. The results of the cost simulations will be compared with figures on revenue projections developed from other sources and then decisions will have to be made regarding how the delivery systems would be changed to bring revenues and expenditures in line with one another. These cost simulations may also be used to determine what it would cost (i.e., how much revenue would be required) to provide a "more appropriate" program of service. As the program and service specifications are changed, the user may decide to create a new database by allocating space for a new RCMRAW with a different sequence number. This would simply allow the user to keep a record of what the previous specifications were in order to conduct comparative analyses with any future changes that might be made.

This database also contains the simulation parameters. These parameters represent sets of commands that tell the RCM computer program how to process the various databases. For example,

DIRECTORY FOR THE LIBRARY DISTRAW

(DISTRAW is a fixed block partitioned Dataset with LRECL=133).

MEMBER NAME	DESCRIPTION OF CONTENTS OF MEMBER DATASET SOURCE
ASGNFILE	EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION 1-RCM Worksheet 5: EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FORM. This Worksheet contains information identifying employees, their job assignment codes, salary information, work and pay schedules, and benefit information.
BENEFITS	BENEFIT PACKAGES AND CONTRIBUTION RATES 1-RCM Worksheet 4: BENEFIT PACKAGES AND CONTRIBUTION RATES. This Worksheet contains benefit package codes, descriptions and rates of district contributions to benefits.
ENRINDX	ENROLLMENT AND SERVICE LEVELS AND RESOURCE COST INDICES 1-RCM Worksheets B-1, B-2, B-3, B-4: ENROLLMENT AND SERVICE LEVELS FOR INSTRUCTIONAL PROGRAMS AND RELATED SERVICES, SCHOOL ADMINISTRATION AND SUPPORT SERVICES, PROGRAM ADMINISTRATION AND SUPPORT SERVICES, and DISTRICT ADMINSTRATION AND SUPPORT SERVICES, respectively. These Worksheets contain the total annual enrollments and the number of units for each of the programs and services within each of the schools and locations in the district(s). 2-RCM Worksheet 6: RESOURCE COST INDEX DATA. This Worksheet contains information on the resource cost indices for each school and/or district. This is used in STATE LEVEL APPLICATIONS only (when the RCM is used to support the SFPM).
RESLISTi	THE LIST OF RESOURCES i=0,1,2 (Up to three alternative lists may be specified and labeled as 0,1,2. The simulation parameter RESL_NO needs to be set to designate the appropriate RESOURCE LIST to be used for each simulation run.) 1-RCM Worksheet 2: LIST OF RESOURCES This Worksheet contains resource descriptions along with the corresponding object codes, units of measurement codes, cost index codes, resource class codes, unit prices, years of useful life, replacement rates, and rounding units.
SALSCHED	SALARY SCHEDULES 1-RCM Worksheet 3: SALARY SCHEDULE INFORMATION This Worksheet contains salary schedules for all classes of employees.

DIRECTORY FOR THE LIBRARY RCMRAWyy

[RCMRAWyy is a fixed block partitioned Dataset with Logical Record Length (LRECL) =133].

MEMBER NAME	DESCRIPTION OF CONTENTS OF MEMBER DATASET SOURCE
COMPENRO	STATEMENTS FOR MODIFYING ENROLLMENT FILE (OPTIONAL FILE) This file is not derived from any RCM Worksheet. It contains programming statements using SAS (STATISTICAL ANALYSIS SYSTEMS). These statements are OPTIONAL and are intended to be used to make any necessary adjustments in the enrollment data recorded in DISTRAW(ENRINDX). If no adjustments are necessary, the file will still need to be created and should contain the following comment statement. A comment statement is any statement beginning with an asterisk (*) and ending with a semicolon (;). An appropriate comment statement would be *NO DATA MODIFICATIONS ARE NECESSARY;
SUBSET	LIST OF DISTRICT ID's USED TO SUBSET PRINTED REPORTS This dataset contains simply a list of district ID codes that are used to subset the output datasets used to print the RCM reports.
SIMPAR	THE SIMULATION PARAMETERS. RCM Worksheet 7: THE SIMULATION PARAMETERS. This file is derived from the SIMULATION PARAMETER WORKSHEET which is contained in the dataset RCM851(SIMPARDF). The dataset RCM851(SIMPARDF) is edited to fit the needs of the user and the specific simulation being run. It is then saved in RCMRAWyy under the name SIMPAR to be used for each simulation run.
WSA1	DELIVERY SYSTEM WORKSHEET A-1 RCM Worksheet A-1: INSTRUCTIONTAL PROGRAMS AND RELATED SERVICES This file contains the delivery systems for instructional programs and related services.
WSA2	DELIVERY SYSTEM WORKSHEET A-2 RCM Worksheet A-2: SCHOOL ADMINISTRATION AND SUPPORT SERVICES This file contains the delivery systems for school administration and support services.
WSA3	DELIVERY SYSTEM WORKSHEET A-3 RCM Worksheet A-3: PROGRAM ADMINISTRATION AND SUPPORT SERVICES This file contains the delivery systems for program administration and support services.
WSA4	DELIVERY SYSTEM WORKSHEET A-4 RCM Worksheet A-4: DISTRICT ADMINISTRATION AND SUPPORT SERVICES This file contains the delivery systems for district administration and support services.

STEPS TO DEVELOPMENT OF THE RCM DATABASE AND
THEIR RELATION TO THE RCM WORKSHEETS AND DATASETS

STEP	DESCRIPTION	RCM WORKSHEET TO BE FILLED OUT	DATASETS TO BE CREATED
1	LIST OF PROGRAMS AND SERVICES	RCM WORKSHEET 1: LIST OF PROGRAMS AND SERVICES RCM WORKSHEET 1.1: HEADER RECORDS FOR RCM WORKSHEETS A-1, 2, 3, AND 4	RCMRAWyy(WSA1) RCMRAWyy(WSA2) RCMRAWyy(WSA3) RCMRAWyy(WSA4) where yy=sequence number for RCMRAW.
2	LIST OF RESOURCES	RCM WORKSHEET 2: LIST OF RESOURCES	DISTRAW(RESLISTi) where i=0,1,2
3	PROGRAM AND SERVICE DELIVERY SYSTEMS	Remaining records for RCM WORKSHEETS A-1,2,3 & 4	Add remaining records to: RCMRAWyy(WSA1) RCMRAWyy(WSA2) RCMRAWyy(WSA3) RCMRAWyy(WSA4)
4	ENROLLMENT AND SERVICE LEVEL DATA	RCM WORKSHEETS B-1,2,3 & 4 (No Formal RCM Worksheet)	DISTRAW(ENRINDX) RCMRAWyy(COMPENRO)
5	EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE	RCM WORKSHEET 3 RCM WORKSHEET 4 RCM WORKSHEET 5	DISTRAW(SALSCHED) DISTRAW(BENEFITS) DISTRAW(ASGNFILE)
6	RESOURCE COSTS	RCM WORKSHEET 6	Add Resource Cost Index records to: DISTRAW(ENRINDX)
7	SIMULATION PARAMETERS AND SUBSET OUTPUT	RCM WORKSHEET 7	RCMRAWyy(SIMPAR) RCMRAWYY(SUBSET)

some of the commands may be used to designate the unit of observation (i.e., the school or the district), to set inflationary adjustment factors for resource costs, or to modify all class sizes by uniform percentages.

Table III-3 lists each of the steps in preparation of the RCM database along with the corresponding RCM Worksheets and datasets.

C. STRUCTURE OF THE RCM COMPUTER PROGRAM

Having gone through the steps to develop the RCM database as outlined in Table III-3, the user would then need to prepare to run the RCM computer program. The RCM computer program was written using SAS (Statistical Analysis Systems), a comprehensive software package designed for a wide range of problems related to data management and statistical analysis.<2> Although SAS was originally written for a large mainframe computer, more recent versions of SAS are becoming available for smaller computer systems. Running the RCM computer program will require the user to obtain access to a computer system that has the SAS system available. SAS is widely available around the United States in hundreds of computer installations. Gaining access to SAS would require determining the location of the nearest computer system with SAS available and establishing an account. The minimum hardware requirements for the user would involve a microcomputer, a modem, and a printer (preferably high speed).

The RCM consists of more than a single program. It is actually a series of sub-programs designed for specific purposes. Table III-4 contains a directory for RCM852 which is the name of a fixed block partitioned data library that contains the RCM computer programs, version 85.2. The directory divides the datasets included in this data library into four types: (1) informational files, (2) Model datasets, (3) Utility Programs, and (4) the RCM programs.

THE INFORMATIONAL FILES. The informational files include the copyright statement for the RCM computer model, a flow diagram similar to the one in Figure III-1 in this Chapter, and file layouts and formats for the raw input datasets that make up the RCM database. These file formats are also contained in Appendix A of this report where data entry procedures are discussed.

MODEL DATASETS. There are two model datasets: the RESLIST and SIMPARDF. RESLIST is a sample resource list which may be revised or edited to meet the needs of the user. Alternatively, the user may simply enter the data to create a new resource list based on RCM Worksheet 2 referred to above and discussed in detail in Chapter V. SIMPARDF is essentially a copy of RCM Worksheet 7 which includes the default values of the SIMULATION PARAMETERS for running the RCM. These SIMULATION PARAMETERS

TABLE III-4

DIRECTORY FOR RCM COMPUTER PROGRAMS, VERSION 85.2

Member	Label
INFORMATIONAL FILES:	
COPYRGHT	COPYRIGHT STATEMENT FOR RCM
DIAGRAM	FLOW DIAGRAM OF THE RCM COMPUTER PROGRAM
FILEFMTS	FILE FORMATS: RESLIST,ENRINDX,WSA1,WSAS
MODEL DATASETS:	
RESLIST	Model dataset for the RESOURCE LIST.
SIMPARDF	Default values of Simulation Parameters
UTILITY PROGAMS:	
CRENRFI	UTILITY: Create Model for ENRINDX file
ENRWS	UTILITY: Creates Enr Workshts,A-1,2,3,4
PRENRSIZ	UTIL,Prints ENR_SIZE from DISTRAW#ENRINDX
PRLISTS	UTILITY,Prints lists:A-1,2,3,4
RCM PROGRAMS:	
CRDINRAW	Creates DISTDATA from Raw Database
CRDINSAS	Creates DISTDATA from SAS Database
CRPERC	Creates Personnel Cost files
CRRES	Reads,Saves,Prints the Resource List
PARAM	Save,Print Simulation & Print Parameters
PRBUDGET	Prints budget output,in progress
PRRAWOUT	Print Raw District Output
RCM	RCM SIMULATION: SUMMARY & DISTRICT OUTPUT
SM	Simulation Program:Summary/District Output
UNITFMT	Formats for Units of Measure
VARL	Creates Var lists,labels,print lists
WSAS	Reads,Saves,Prints RCM Worksheets A-2,3,4
WSA1	Reads,Saves,Prints RCM Worksheet A-1
WSB1	Reads,Saves,Prints RCM Worksheet B-1

should be reviewed and appropriate values set to meet the specific needs of the user. This is accomplished by editing the dataset SCMDSJ(SJMP&DT) and saving the edited version under SCMB&&yy(SJMP&B). This worksheet is in exactly the form needed to create the new input dataset SCMB&&yy(SJMP&B).

THE UTILITY PROGRAMS. The utility programs include programs that may be used to assist the user in a variety of tasks. The member ENEWP1 may be used to create a model dataset for entering the enrollment data that will ultimately go into the dataset SJSTB&&(ENRNEW). It essentially writes out a list of all programs and services into SJSTB&&(ENRTLE) which may then be edited and saved as SJSTB&&(ENRNEW) for use with the SCP programs.

The member ENRWS creates a set of blank enrollment worksheets from the header records in the SERVICE SYSTEM WORKSHEET files. These worksheets consist of a comprehensive list of all programs and services with blank spaces for filling in enrollments and (where pertinent) total program or service units. These worksheets may be used to send out to schools for gathering enrollment and service level data.

The member PREWS2 serves the purpose of comparing the lists of programs and services contained in the enrollment file, i.e., SJSTB&&(ENRNEW), with those contained in the SERVICE SYSTEM WORKSHEET, i.e., SCMB&&yy(WSA1), SCMB&&yy(WSA2), SCMB&&yy(WSA3), and SCMB&&yy(WSAn). The program will tabulate those programs that are among those included in the SERVICE SYSTEM WORKSHEET, but not in the enrollment file. It will also list all of the program and service enrollments by school and district (i.e., those actually included in the enrollment file) with an indicator which flags those programs and services for which no SERVICE SYSTEMS have been specified. Finally, this program should be reviewed to check for errors associated with invalid data in the enrollment file. This will be designated as a standard SAS program error reported to the user within the SAS log. The user should search the program output for the phrase "NOTE: DATA" and read the messages that follow which explain the file and location of any invalid data being read. This kind of error most commonly occurs when data have not been entered into the appropriate columns of fields provided in the file structure and formats presented in Appendix B.

The member PRL2T1 may be used to obtain a simple listing of the programs and services to be specified on the SERVICE SYSTEM WORKSHEETS.

THE SCP PROGRAMS. The final group of programs are the SCP programs. These are the programs that make up the various steps actually run during the SCP simulation. It is these programs are listed in alphabetical order by name. The function of each of these programs is discussed below in the order in which they are used in the SCP simulation. It should be noted,

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

however, that the user need not run these programs individually. A single program labeled simply RCM is included in this list and it contains the central ingredients necessary to run all of the other RCM PROGRAMS. It consists mainly of the job control language (known as JCL among programmers) necessary to run the remainder of the programs.

Each of the steps included in the RCM program are described below. These steps are also displayed in Table III-5. This table includes the step number, the name of the step or program within RCMJCL, a brief description of the step, a list of the input datasets from the RCM database (mainly from the RCM worksheets), a list of the SAS files output from the RCM simulation programs, and a list of report files written to the RCM output data library.

STEP 01. ALLOCATE SPACE FOR RCMSASzz.

This step includes the JCL, which is not included anywhere else in the RCM data library, to allocate space for the output databases. This step allocates space for two output databases: RCMSASzz and RCMOUTzz where zz is simply a two digit number from 01-99 which designates the simulation sequence number. It is suggested that within a given school year, that any time a new simulation is run involving significant changes in delivery systems, enrollment data, or resource costs, a new simulation sequence number should be attached to the output databases created. This provides a way for the user to track the changes in resource and budget data in relation to changes in the basic input data. It essentially provides a way to conduct comparative analyses of simulation results.

RCMSASzz is allocated to store all of the SAS data files created as a result of running the various steps in the RCM program. Access to the data stored in these SAS files can only be attained through the use of SAS programs. These files can not be accessed directly at a computer terminal and edited by the user. The advantage to these files is that the user may design their own SAS programs to read and manipulate the RCM output to created customized reports.

The dataset RCMOUTzz is a raw database. Unlike RCMSASzz, the datasets that are eventually output into RCMOUTzz may be directly accessed at a computer terminal and edited and revised. However, most of these data are in the form of specific reports that may be used directly by different divisions or agencies without any revisions.

Both of these databases contain essentially the same basic information. Both contain all of the processed input and output data. All of the data derived from the RCM worksheets has been processed and manipulated to create various kinds of reports, and these data have ultimately been transformed into a variety of reports describing resource utilization, program budgets

and costs. The specific contents of each of these output databases is discussed later on in this Chapter.

STEP 02. RCMB52(PARAM): READ,SAVE AND PRINT SIMULATION PARAMETERS.

This step reads, saves and writes out the SIMULATION PARAMETERS into a report in RCMOUTzz. This report simply provides a way for the user to confirm that the simulation parameters for running the model have been set correctly. These simulation parameters are discussed in more detail in Chapter X. These simulation parameters are used in every other step of the RCM program to guide the data processing.

STEP 03. RCMB52(UNITFMT): READ IN FORMATS FOR UNITS OF MEASUREMENT.

This step reads in the formats for the units of measurement codes. These units of measurement codes are contained in member dataset UNITFMT. These formats provide definitions of the codes for units in which program and service size and resources are measured. These codes and their utilization in the RCM databases are described in more detail in Chapters IV, V, VI, and VII. As explained in these Chapters, the user is permitted to make certain additions or modifications to this file so that these codes and formats meet user needs. In most instances, the predefined codes should be sufficient for most users needs. These formats are used in almost every other step of the RCM program to create appropriate informational reports.

STEP 04. RCMB52(ERRES): READ,SAVE AND PRINT THE RESOURCE LIST.

This step reads, saves and writes out the RESOURCE LIST into a report in RCMOUTzz. The SAS file version of the RESOURCE LIST is used in steps 05, 06, 07, and 10 to associate resource codes, units of measure, descriptions and prices with other related information.

STEP 05. RCMB52(ERPERC): READ,SAVE AND WRITE THE EMPLOYEE ASSIGNMENT AND PAYROLL FILE

This step is OPTIONAL. This step is used primarily when the RCM is used in a local application to support the EPBM. The program reads, processes and saves personnel cost information at a variety of levels of aggregation. It will create personnel cost files by object code or by object code within programs and/or program categories. This program can be bypassed by setting the simulation parameter ERPERC to zero (i.e., ERPERC=0).

STEP 06. RCMB52(WS01): READ,SAVE AND WRITE RCM WORKSHEET 8-1.

This step reads, saves, and writes out a reports containing the RCM worksheet 8-1 for the instructional programs and related services. The version of this worksheet written out reflects the

program and service specifications exactly as they were completed. The actual version of the RDM worksheet A-1 data used in the simulation aggregates resources with identical object codes and units of measure codes. The report version of the A-1 worksheet is designed to reproduce the original raw data on program and service specifications along with information on resource costs derived from Steps 04 (CRREIS) and Steps 05 (CRPERC). This allows the user to verify and review program and service specifications.

STEP 07. RDMB52(WSAS): READ,SAVE AND PRINT RDM WORKSHEETS A-2,3,4.

This step reads, saves, and writes out a report containing the RDM worksheets A-2, 3 and 4 for administrative and support services at the school, program and district level. The version of these worksheets written out reflects the program and service specifications exactly as they were completed. The actual versions of the RDM worksheets A-2,3,4 data used in the simulation aggregate resources with identical object codes and units of measure codes. The report versions of the A-2,3,4 worksheets are designed to reproduce the original raw data on service specifications along with information on resource costs derived from Steps 04 (CRREIS) and Steps 05 (CRPERC). This allows the user to verify and review service specifications.

STEP 08. RDMB52(VARL): CREATE VARIABLE LISTS, LABELS, AND PRINT LISTS.

This program is an internal utility program for the RDM simulation. It uses SAS datasets created in the earlier steps 02 through 07 to create lists, labels and necessary SAS statements that are used by subsequent RDM steps 09 through 12. This program creates lists of variables from program, service and resource names. It creates variable labels from the descriptions entered on the various RDM worksheets. It also creates various SAS statements used to order and manipulate data in the simulation program.

STEP 09. RDMB52(CRDINSAS): CREATE THE DISTRICT INPUT DATABASE.

Step 09 reads in the raw enrollment and cost index data and creates the school and/or district level enrollment and cost index input files used in the RDM simulation program to develop the cost estimates for programs and services by school and school district. Step 09 also includes an alternative program RDMB52(CRDINSAS) which reads a previously created district database and allows the user to make modifications to it directly for purposes of the simulation run. The availability and utilization of this alternative program for Step 09 is described in Chapter XI in the section on the development of the command files for running the RDM.

STEP 10. RCM052(SM): CREATE DISTRICT RESOURCE AND COST DATA.

Step 10 is the heart of the RCM simulation program. This is the program that uses all of the program and service specifications and resource costs developed in Steps 03 through 07 along with the enrollment and cost index datasets developed in Step 09 to create the RCM output. This RCM output consists of the following datasets:

- RCMDATA: total and per pupil costs and costs broken out by class of delivery system (see Chapter IV) for each school and/or district included in the analysis.
- TCDATA: total cost data by program and service as well as by object code for each school and district.
- ACDATA: average cost data by program and service as well as by object code for each school and district.
- UNITDATA: total number of program and service units for instructional programs, related services and schools for each school and district.
- QRESDATA: total quantities of resources by object code for each school and district.
- QSMDATA: total quantities per pupil of resources by object code for each school and district.
- DISTOUT: combines the cost and quantity data on resources and on programs and services for each school and district.
- BUD_QTY: budgets for each program and service by object code for each school and district observation (Output only for local applications).

STEP 11. RCM052(PRGRWOUT): WRITE OUT DISTRICT OUTPUT.

Step 11 writes out two reports. One report (RCMDATA) contains total and average cost data by school and by district with breakdowns among instruction and administration and support services. A second report is based on the dataset DISTOUT, produced in Step 10, above which includes cost and quantity data on resources and on programs and services for each school and district.

STEP 12. RCM052(PRBUDGET): WRITE OUT PROGRAM BUDGETS.

This final step writes out the program budget report (BUDQTY) based on the dataset (BUD_QTY) produced in Step 10 above.

This report combines program budgets by object code along with detailed breakdowns of total resource utilization by program in a report form. The dataset from which this report is derived represents a valuable resource for district decision makers that may be used for budget analysis.

D. RUNNING THE RCM PROGRAMS

In the first pass through the data, the RCM computer program should not be run in its full form. As indicated earlier, running the RCM computer program really involves a single program identified as the member dataset RCM contained in the RCM program library RCM852. RCM852(RCM) contains the JCL and SAS statements necessary to call the various programming code represented by the STEPS 01 through 12 described above. During an early stage in the development of the database some of the utility programs such as PRENRSIZ and CRENRFI may be run for purposes related to data entry and organization. However, once some of the basic data have been entered, it may be useful to do a partial run of the RCM simulation program to allow those individuals involved in the specification process to review the programs and services and to allow for verification of the data entry process. This can be accomplished by running STEPS 01 through 07. Step 01 allocates the output databases, Step 02 sets the simulation parameters, Step 03 makes the formats available to the program, Step 04 introduces the current resource list, Step 05 processes the employee assignment and payroll information, and Steps 06 and 07 create and print out the program and service delivery systems. The output from this run would provide some initial cost and budget information as well as the computer output necessary to check for the validity of the data that have been entered. The validity check involves determining whether data have been properly entered into the designated fields according to the file formats for each dataset as well as determining whether or not the data that have been entered represent "reasonable" values, e.g., to make sure salary or expenditure data have been entered with the appropriate decimals.

Once the data for the enrollment files, resource lists, and program and service delivery systems have been checked and validated, the remaining steps of the RCM computer program may be run to produce the resource quantity and cost data by programs, services, resources and by districts and schools.

Chapter XI of this volume describes the elements involved in creating an interactive command file enabling the user to run the various RCM programs.

FOOTNOTES FOR CHAPTER III

<1> There is a significant literature on this topic. For additional information contact AEFP, Inc.

<2> SAS runs on the IBM 370/30xx/43xx and compatible machines in batch and interactively under OS, OS/VS, VM/CMS, DOS/VSE, SSX, and TSO. For more information about the SAS system, the reader is referred to the SAS USER'S GUIDE: Basics (1982 edition) which is available from the SAS INSTITUTE INC., BOX 8000, CARY, NORTH CAROLINA 27511.

PART 2

DEVELOPMENT OF THE RCM DATABASE

CHAPTER IV

THE LIST OF PROGRAMS AND SERVICES

The first step in the specification process involves developing a list of program and service the delivery systems. The purpose of this step is to provide an overview of the specification process and to introduce the user to some of the terminology of the RCM.<1> It serves to help those individuals participating in the process of specification to focus their attention on the concept of a delivery system and to relate this concept to their own structure for organizing and coding information about programs and services.

The first component of this task is to develop descriptions of the programs and services. This will be done through the use of a structured classification scheme. The second task involves establishing a coding structure for the programs and services. The structure of the classification scheme will serve as a basis for this coding structure.

Section A of this Chapter introduces the classification scheme, while Section B illustrates how the classification scheme may be used to develop descriptions, labels, names and codes for programs and services.

A. A CLASSIFICATION SCHEME FOR DESCRIBING PROGRAMS AND SERVICES.

What follows is a scheme for classifying and describing program and service delivery systems. This scheme helps to organize the information about programs and services, and it provides a framework for developing names, labels, descriptions and codes of the various program and service delivery systems. The classification scheme contains eleven dimensions. These eleven dimensions are outlined in Table IV-1 along with the specific classes designated within each dimension.

The classification scheme presented in Table IV-1 contains both fixed elements and elements that may be redefined to meet the needs of the agency using the RCM. The primary and secondary classification levels are fixed. These two levels represent the major structural elements that make up the RCM naming and coding conventions. The primary classifications are designated by the alphabetic characters A through K. The secondary levels are designated by the single digit numbers 1 through 7. In some cases, a user may find it useful to add secondary classifications. This is most likely to occur under the CONTENT classification.

The tertiary classification levels are intended to be suggested but may be subject to change by the user. For greater detail, a fourth classification level may be developed. For example, under the CONTENT classification, a user may desire to

TABLE IV-1
SCHEME FOR CLASSIFYING PROGRAMS AND SERVICES

A. CDS: CLASS OF DELIVERY SYSTEM.
   1. IRS: Instructional Programs and Related Services
   2. SAS: School Administration and Support Services
   3. PAS: Program Administration and Support Services
   4. DAS: District Administration and Support Services

B. CAT: CATEGORIES OF PROGRAMS AND SERVICES
   1. PASC: INSTRUCTIONAL PROGRAM CATEGORIES.
      01. RE: Regular Elementary
      02. RM: Regular Middle or Junior High School
      03. RH: Regular High School
      04. SE: Special Education
      05. GE: Gifted and Talented Education
      06. VE: Vocational Education
      07. LE: Limited English Proficient Programs
      08. CE: Compensatory Education
      09. AE: Adult Education Programs
   2. SASC: SCHOOL TYPE CATEGORIES.
      01. EL: Elementary School
      02. MS: Middle or Junior High School
      03. HS: High School
      04. VC: Special Vocational High School or Center
      05. SS: Special School for Handicapped Students
   3. DASC: DISTRICT ADMINISTRATION CATEGORIES
      01. GA: General Administration
      02. EA: Educational Services and Administration
      03. FS: Fiscal Services
      04. PA: Personnel Administration
      05. MO: Maintenance and Operations
      06. TR: Transportation Services

C. ORG: ORGANIZATIONAL SETTING.
   1. INT: Internal Assignment: In Public or private LEA
   2. EXT: External Assignments:
      01. PUB: Other local public district
      02. REG: Regional Agency
      03. SFA: State/Federal Agency
      04. NPS: Nonpublic Agency/School

D. LOC: LOCATIONAL SETTING.
   1. RS: Regular School.
   2. SS: Special School.
   3. VC: Vocational School or Center
   4. AS: Adult School
   5. RP: Residential Placement.

E. DEL: DELIVERY MODE.
   1. DI: Departmentalized Program.
   2. SC: Self-contained.
   3. RP: Resource Program.
   4. RS: Related Service.
   5. HH: Home and Hospital.
   6. SL: School Level Admin. or Support Services
   7. DL: District Level Admin. or Support Services

F. SIT: NUMBER OF SITES SERVED.
   1,2,3,...: Actual number of sites (e.g., 1 or >=2)

G. CON: CONTENT.
   1. I_GEN: General Instruction (combined subjects).
   2. Instruction by subject matter:
      01. I_AGR: Agriculture
      02. I_ART: Art
      03. I_BIL: Bilingual Education
      04. I_BUS: Business Education
      05. I_CAW: Career Awareness
      06. I_COR: Career Orientation
      07. I_CSK: Career Skill Development
      08. I_COM: Community Education
      09. I_CON: Consumer Education
      10. I_DED: Driver Education
      11. I_ENG: English, Reading and Language
      12. I_ESL: English as a Second Language
      13. I_FOR: Foreign Language
      14. I_HLT: Health Education
      15. I_NUR: Health and Nursing Occupations
      16. I_HEC: Home Economics
      17. I_IND: Industrial Arts
      18. I_MAT: Mathematics
      19. I_MUS: Music
      20. I_PHE: Phyisical Education
      21. I_REM: Remedial Subjects
      22. I_SCI: Science
      23. I_SOC: Social Science
      24. I_WKS: Work Study
   3. Therapeutic Services by Type
      01. T_SPS: Speech Therapy -- Severe
      02. T_SPM: Speech Therapy -- Mild
      03. T_OCC: Occupational Therapy
      04. T_PHY: Physical Therapy
      05. T_PSY: Psychological/Social Work Services
      06. T_CNS: Counseling Services
      07. T_APE: Adaptive PE
      08. T_OTH: Other Therapeutic Services
   4. Miscellaneous Services by Type.
      01. M_VOC: Vocational Skills
      02. M_ADS: Assessment, Diagnostics, Screening Serv
      03. M_TRN: Transporation Services

TABLE IV-1 CLASSIFICATION SCHEME FOR PROGRAMS AND SERVICES CONTINUED

H. STU: STUDENT CLASSIFICATION
- 1. RS: Regular Students
- 2. DA: Disadvantaged Students
- 3. BS: Bilingual/Multilingual Students
- 4. GI: Gifted Students
- 5. HC: Handicapped Students
  - 01. SL: Speech/Language Impaired.
  - 02. MR: Mentally Retarded.
  - 03. OI: Orthopendically Impaired.
  - 04. MH: Multiply Handicapped.
  - 05. LD: Learnding Disabled.
  - 06. ED: Seriously Emotionally Disturbed.
  - 07. DF: Deaf.
  - 08. DB: Deaf and Blind.
  - 09. HH: Hard of Hearing.
  - 10. OH: Other Health Impaired.
  - 11. VH: Visually Handicapped.
  - 12. NC: Non-categorical

I. AGE or GRD: AGE/GRADE LEVEL GROUPING
- 1. AGE: AGE LEVEL GROUPING.
  - 0,1,2,...: Ages 0 to ?.
  - UN: Ages unspecified.
- 2. GRD: GRADE LEVEL GROUPING.
  - K,1,2,...12: Grade levels
  - 21. UN: Ungraded
  - 22. PR: Pre-school/Early Childhood
  - 23. EL: Elementary Grades
  - 24. MS: Middle/Junior Grades
  - 25. HS: High School Grades
  - 26. SE: Secondary Grades
  - 27. ES: Extended Secondary Grades
  - 28. UN: Ungraded
  - 29. PS: Post Secondary Grades

J. TIM: TIME DIMENSIONS (Term,hrs per week)

Term:
- 1. RTQ: Regular Term,One Quarter.
- 2. RTS: Regular Term,One Semester.
- 3. RTF: Regular Term,Full Sch Yr..
- 4. ST: Summer Term
- 5. FY: Full Year

Hrs per week:
- 1. 0,1,2,...40: 0-40 hours/week

K. SIZ: SIZE GROUPING.
- 1. IN: Individual or one to one.
- 2. SG: Small Group Instruction or Service.
- 3. FC: Full Class Instruction or Service.

Footnotes to Table IV-1

* A system of mnemonics is suggested along with each component of the program and service delivery system classification scheme. This system of mnemonics is intended to facilitate and simplify communication among individuals using the program and to provide for a systematic scheme of abbreviation to save space in describing these programs and services. While none of the naming conventions implied by the mnemonics associated with the various criteria or their respective components are necessarily required for operation of the model, some of these mnemonics do appear in elements of the input/output of the model. The symbols suggested under CLASSES OF DELIVERY SYSTEM (i.e., IRS, SAS, PAS and DAS as well as the more abbreviated versions I, S, P, D) are often used in various naming conventions to refer to information derived from one of the DELIVERY SYSTEM WORKSHEETS described in this Chapter. The symbol DS_ (which refers to Delivery System) is dropped in these usages since it is implied by the context.

In some cases the classes listed under the criteria are intended to be only suggestive. New classifications schemes may be developed and utilized at the discretion of the user.

specify detailed course titles underneath each of the general subject matter classifications, e.g., Algebra 1 or Calculus would be added under the Mathematics classification.

RCM Worksheet 1 is designed to make use of the classification scheme in Table IV-1 to develop the initial lists of programs and services. It contains cells corresponding to each of the eleven dimensions included in the program and service classification scheme. Figure IV-1 displays the structure of RCM Worksheet 1 and the information for six sample programs and services have specified to illustrate how the classification may be utilized. These programs are more fully described in Section B in which this information is used to develop program descriptions, labels, names and codes.

Each of the relevant cells should be completed for each of the programs and services desired to be included in the model. These programs and services then become the object of more complete specifications on the DELIVERY SYSTEMS WORKSHEETS which are described in Chapter VI, and they become the focus of attention in the cost and budget analysis provided by the RCM computer simulation program. Each of the eleven dimensions referred to on the worksheet is described in greater detail below.

(1) CLASS OF DELIVERY SYSTEM. The emphasis of the RCM approach is on the specification of delivery systems for educational programs, for other direct services to children, and for administrative and support services. Simply stated, a delivery system is a delineation of the resources required to provide some program or service. Delivery systems are divided into four classes: one class of instructional programs and related services and three classes of administration and support services. Instructional programs and related services (which will sometimes be referred to simply as programs) include direct services to children. An instructional program or related service may be identified by combining various classes of dimensions A through K in Table IV-1. The CLASS OF DELIVERY SYSTEM is recorded at the top of the worksheet since there are likely to be a significant number of programs and services associated with each CLASS. The program or service units defined within each CLASS serve as the basic unit for the cost analysis carried out within the RCM computer program.

(2) CATEGORIES OF PROGRAMS AND SERVICES. There are three basic types of program or service categories: Instructional Program Categories, School Type Categories, and District Administration Categories. These Category types are fixed within the RCM. The specific categories within each of these types, however, are set at the discretion of the user. Sample types have been provided in Table IV-1 to illustrate the kinds of categories commonly used for the RCM cost analysis. These categories should be selected with the idea that they will serve as the basis for summary cost analyses that might be done with RCM output.

[illegible] program [illegible] [illegible] [illegible]

District Administration Categories are subordinate to SD.1:DSY SYSTEM CLASS 4: District Administration and Support Services (SAS). District administration and support services refers to those district level services required for the overall operation of the school district.

With these more general classes of delivery systems and service categories in mind, one may proceed to specify the detailed elements which distinguish one program or service from another. The user should note that not all of the dimensions of the classification scheme are necessary to uniquely identify a particular program or service delivery system. While some instructional programs may require all of the dimensions in order to be uniquely identified, the service delivery system describing school administration and support services may require only a subset of the dimensions. This is illustrated in Figure 10-1 by noting the elements of the classification scheme which are not completed for the third example for School Administration and Support Services. These issues are more fully discussed in Section 6.

The level of detail required to identify programs and services will vary considerably depending on how the DIM is being utilized. If the DIM is being used to support the IFPP, then a fairly general categorization of courses may be sufficient, while utilization of the DIM to support the IFSP would require a considerably more detailed delineation of programs and services. Where a program such as "high school mathematics" might provide sufficient detail for the IFPP, this program might have to be divided into such individual courses as Algebra I, Geometry, and Calculus for application under the IFSP.

The first column on the worksheet is labeled SEQ NO, and is provided to enter a program or service sequence number. This is used simply to organize the activity and to provide the user with a temporary shorthand method for referring to programs and services during this process of naming. It is not a formal component of the classification scheme.

(3) ORGANIZATIONAL SETTING. The ORGANIZATIONAL SETTING is established to allow the user to distinguish internal versus external assignments. If a school district employs its own personnel to staff a program, it would be considered an internal assignment. A program provided by an outside vendor or other agency and paid for as a contracted service would be an external assignment. The reason for classifying assignments or programs in this fashion is to permit the user to make overall cost comparisons of various kinds of external program assignments with their internal counterparts. More or less detail in the classification scheme may be required depending on how the data are to be utilized in the final analysis.

(b) LOCATIONAL SETTING. The LOCATIONAL SETTING is

also established to provide for cost comparisons of similar programs offered in regular versus specialized settings, e.g., regular school versus special school settings.

(3) DELIVERY MODE. Delivery systems may be classified into a number of more generic categories which we refer to as DELIVERY MODES. The first five of these delivery modes are primarily designated for instructional programs and related services. The sixth class of delivery mode is for school level services, while the remaining class designates administrative and support services which are generally provided at the district level. The purpose for delineating the delivery mode is that it provides a general method for characterizing delivery systems. The classes of delivery mode provide the user with some limited information about a delivery system. It contains implicitly some information on content, possible sites served, types of students, age/grade groupings, time spent and size grouping. Each delivery mode is described in somewhat more detail below.

DIFFERENTIATED INSTRUCTION is a delivery mode involving provision of very specialized classroom units organized along the lines of particular disciplines and/or subject matter within those disciplines. These are primary assignments for students and generally meet at specifically scheduled times on a daily or weekly basis. They are primarily offered in single sites at the secondary level and most commonly meet approximately five hours per week in full class groupings. Examples would include traditional subject matter courses like those in ninth grade English, American history, or introductory algebra.

A SELF CONTAINED CLASSROOM is a classroom unit in which virtually all of the basic instructional program is provided to the child. It is considered to be a primary instructional assignment. It is generally provided in a single site. It is often used at the elementary grade levels and for certain classes of handicapped children. It is also generally a full time program (greater than 15 hours per week) provided in full class groupings. An example of a self contained classroom would be the traditional elementary grade level classroom (e.g., grades one through six) or a special day class for handicapped children.

A RESOURCE PROGRAM refers primarily to instructional services which are provided in addition to that offered in one of the primary assignments. It generally provides specific kinds of instructional assistance to special need students within the regular classroom environment or within a resource center. The resource program generally involves some category of personnel (e.g., a speech therapist, teacher or aide) serving a case load of pupils on a weekly, monthly or even annual basis. The range of time for any given student may vary widely with the pupil need and content of the program. Speech therapy would be an example of a resource program.

A RELATED SERVICE is very similar to a RESOURCE PROGRAM in structure and organization, but is distinguished most commonly from a resource program in that it has NO INSTRUCTIONAL CONTENT. It provides students with services designed to support the basic instructional program. It is generally organized as a case load much in the same way as the resource program. Counseling, physical therapy or transportation services would be examples of related services. (Counseling or transportation services might also be designated as part of support services and would show up as one of the administration and support service delivery systems rather than as a related service.)

HOME AND HOSPITAL instruction is similar to a RESOURCE PROGRAM except that it is provided to students who are home or hospital-bound. This service is almost exclusively provided on an individual basis, although the professionals involved often serve a case load consisting of one to ten pupils.

SCHOOL LEVEL and DISTRICT LEVEL ADMINISTRATION AND SUPPORT SERVICES are pretty much self explanatory in that the distinguishing factor is the level at which the services are provided. School Administration and Support Services school level services, while Program and District Administration and Support Services are generally regarded as district level services.

(6) CONTENT. CONTENT of the program is perhaps the most important element in the description of a delivery system in conveying what goes on inside the programs and services. It designates instructional focus or the nature of the related services themselves. It includes potential reference to orientation, subject matter, testing materials or therapeutic services. The subcategories under the Content heading are intended to be suggestive. Greater detail would likely be required for local applications of the DCM under the CPSM, while this level of detail might be sufficient for state level applications of the DCM under the SPPM.

(7) NUMBER OF SITES SERVED. Differences across programs in the NUMBER OF SITES SERVED might suggest a possible differentiation of program and service delivery systems according to whether one, two or more sites served. For example, a RESOURCE PROGRAM serving more than a single site will require travel costs and possible additional allocations of equipment and may even require adjustment of case loads to take account of added travel time for professional personnel.

(8) STUDENT CLASSIFICATION. CLASS OF STUDENT provides the user with the ability to differentiate delivery systems that may be alike in every other way according to the specific subgroup of students served. Students with different handicapping conditions may be served in special day classes that would appear to be identical in terms of resource configurations, but which really require different pedagogical processes. In this case, the students would in fact be served in different

programs. This distinction may or may not be important from the standpoint of cost analysis depending on relative enrollments, but may add information only to allow the user to organize the cost data later on in the analysis. The subcategories are once again seen to change by the user according to needs of the analysis.

(9) AGE OR GRADE LEVEL GROUPING. Age or Grade level groupings are used as alternative ways of classifying student chronology. Each offers the user the opportunity to classify by individual ages or grades or by age/grade groupings, e.g., low grade - high grade or elementary, middle, etc.

(10) TIME DIMENSIONS. This dimension is divided into two components that are generally used in combination. The first element is Term and simply designates the portion of a year over which this program is provided: one quarter, one semester, full school year, summer term, or full year. The second element designates the hours per week which generally falls between 2 and 40. This indicates the average amount of time or the range of times spent by individual students in the program. For example, high school classes generally meet for one hour per day, five days per week or five hours per week. A self contained third grade class might run for 5 hours per day, five days a week or 25 hours. A resource program like speech therapy for mildly speech impaired children might involve anywhere from 1 to 3 hours per week per child depending on individual needs. Hours per week for these three examples would then be specified as 5, 25 and 1-3, respectively.

(11) SIZE GROUPINGS. Instructional services may be organized into three kinds of size groups. It may be one to one in the case of speech therapy or other kinds of therapeutic services designed to meet the needs of individual children. It may also be designed for small groups of children away from or within the regular classroom. Finally, it may be designed for the full regular classroom. This classification also simply serve to provide information relevant to cost comparisons or pedagogical processes internal to the program or service delivery system.

B. DEVELOPING PROGRAM AND SERVICE DESCRIPTIONS AND CODES

Given this classification scheme and the associated codes, one may now begin to develop detail listings and descriptions of programs and services. The information from which these descriptions are developed may also be useful in devising a coding structure that will be used to organize the cost analysis and the processes of program specification as well as data entry.

Figure IV-1 contains six sample programs: two sets of instructional programs and related services, one set for regular elementary and one set for regular high school, and one set of school administration and support services. These examples are used below to show how programs and services are identified by a system of descriptions, labels, names and codes. Through these examples, we show how the classification scheme in Table IV-1

may be used to construct these elements of the identification system from the information presented in RCM Worksheet 1.

Each of these elements of program or service identification system are described below.

- DESCRIPTION: The Descriptions may be as detailed as desired by the user and are intended to reveal the factors that distinguish one program from another.

- LABEL: The Label is an abbreviated version of the Description. It will ultimately be used in data entry for the RCM computer program. Labels for assignments are restricted to a maximum of 40 characters by the RCM computer program. The Label should convey the essence of the program or service Description.

- NAME: The Name is an abbreviation for the Label. It two will ultimately be used in data entry and identification for the RCM computer program. Names for assignments are restricted to a maximum of 8 characters by the RCM computer program. The Name should at a minimum identify in the first two characters the program or service category. Names are restricted to alpha and numeric characters and one special character (the underscore '_'). Names must begin with either an alpha character or an underscore.

- ASSIGNMENT CODE: The assignment code consists of three basic elements: a CLASS CODE, a CATEGORY CODE, and a SERVICE CODE. (Later on in this volume, a fourth dimension, the resource or object code, will be introduced and will be added to the assignment code.) These codes are defined as follows:

  CLASS CODE: The CLASS CODE designates the Class of Delivery System (Item A on Table IV-1). The CLASS CODE is restricted to a single numeric code 1 to 4 designated in Table IV-1.

  CATEGORY CODE: The CATEGORY CODE is based on the Categories of Programs and Services (Item B on Table IV-1). Program Categories apply to Delivery System Classes 1 and 3. School Type Categories apply to Delivery System Class 2, and District Administration Categories apply to Delivery System Class 4. Other elements from Table IV-1 may also be used in constructing CATEGORY CODES, e.g., organizational setting, locational setting, delivery mode, and number of sites served.

The CATEGORY CODE may contain up to 10 characters including alpha, numeric as well as special characters (commas, periods, dashes, underscores, and slashes).

SERVICE CODE: The SERVICE CODE may be composed of a wide range of elements from Table IV-1. Possible elements include content, student classification, and age/grade level groupings. The SERVICE CODE may contain alpha, numeric as well as special characters (commas, periods, dashes, underscores, and slashes).

The samples of descriptions, labels, names, and codes presented below are intended only to be illustrative of how these identification elements may be developed from the classification scheme. There are a variety of ways in which these elements might be constructed, and it will be necessary to work with individual agencies to determine how best these components of the classification scheme may be used. Each of these examples is identified by the Sequence Number designated for convenience in Figure IV-1.

SEQ. NO. 1:

Description: Instructional Program, Regular Elementary Program Category, Internal Assignment, Regular School, Self-contained Delivery Mode, at a single site, general instruction (combined subjects), for regular students, Grades 1 to 3, Regular Term for the full school year, greater than 15 hours per week, and provided to the full class.

Label:

Program Category: Regular Elementary Program
Program: Self-contained, grades 1 to 3

Name: RE_SC13

Assignment Code:	1-01-1.0000013
Components of Assignment Code:	
CLASS (of Delivery System):	1
CATEGORY (Program):	01
SERVICE:	1.0000013
Components of Service Code:	
Content:	1.0000
Grade Level:	013

SEQ. NO. 2:

Description: Instructional Program, Regular Elementary Program Category, Internal Assignment, Regular School, Self-contained Delivery Mode, at a single site, general instruction (combined subjects), for regular students, Grades 4 to 6, Regular Term for the full school year, greater than 15 hours per week, and provided to the full class.

Label:
Program Category: Regular Elementary Program
Program: Self-contained, grades 4 to 6

Name: RE_SC46

Assignment Code: 1-01-1.00000406

Components of Assignment Code:

CLASS (of Delivery System):	1
CATEGORY (Program):	01
SERVICE:	1.00000406
Components of Service Code:	
Content:	1.0000
Grade Level:	0406

SEQ. NO. 3:

Description: Instructional Program, Regular High School Program Category, Internal Assignment, Regular School, Departmentalized instruction, at a single site, Mathematics-Algebra 1 & 2, for regular students, Grades 9 to 10, Regular Term Semester course, 5 hours per week, and provided to the full class.

Label:
Program Category: Regular High School Program
Program: Algebra 1 & 2 (one semester)

Name: RHMATALG

Assignment Code: 1-01-1.18010910

Components of Assignment Code:

CLASS (of Delivery System):	1
CATEGORY (Program):	02
SERVICE:	1.18010910
Components of Service Code:	
Content:	1
Instruc by Subject:	1801
Grade Level:	0910

SEQ. NO. 4:
Description: Instructional Program, Regular High School Program Category, Internal Assignment, Regular School, Departmentalized Instruction, at a single site, Mathematics-Calculus, for regular students, Grades 11 to 12, Regular Term full year course, 5 hours per week, and provided to the full class.

Label:
Program Category: Regular High School Program
Program: Calculus (Full year)
Name: MATHMATCAL
Assignment Code: 1-02-1.18021112
Components of Assignment Code:
CLASS (of Delivery System): 1
CATEGORY (Program): 02
SERVICE: 1.18021112
Components of Service Code:
Content: 1
Instruc by Subject: 1802
Grade Level: 1112

SEQ. NO. 5:
Description: School Administration and Support Services, Elementary School, Internal Assignment, Regular School, School Level Administration, one site, Grades K-6

Label:
School Type Category: Elementary School
Service: Elementary Sch, General Administration
Name: ELGENADM
Assignment Code: 2-01.2-6.0K06
Components of Assignment Code are:
CLASS (of Delivery System): 2
CATEGORY (School Type): 01.2
Components of Category Code:
School Type Category 01
Locational Setting 2
SERVICE: 6.0K06
Components of Service Code:
Delivery Mode: 6.
Grade Level: 0K06

SEQ. NO. 6:

Description: School Administration and Support Services, Middle School, Internal Assignment, Regular School, School Level Administration, one site, Grades 7-8

Label:

School Type Category: Middle School

Service: Middle Sch, General Administration

Name: MSGENADM

Assignment Code:	2-02.2-6.0708
Components of Assignment Code are:	
CLASS (of Delivery System):	2
CATEGORY (School Type):	02.2
Components of Category Code:	
School Type Category	02
Locational Setting	2
SERVICE:	6.0708
Components of Service Code:	
Delivery Mode:	6.
Grade Level:	0708

Using these labels along with the CLASS, CATEGORY and SERVICE codes above, the user can now create the datasets used to identify the programs and services. A special RCM Worksheet 1.1 has been created explicitly for the purpose of recording this identifying information. This Worksheet contains only the header records (RECORD TYPES 0 and 1) from the DELIVERY SYSTEM WORKSHEETS. A sample of this worksheet is displayed in Figures IV-2. Eventually the data recorded on this Worksheet for the respective CLASSES OF DELIVERY SYSTEMS will be recorded on the DELIVERY SYSTEM WORKSHEETS in connection with the corresponding program and service configurations. At this stage, these header records may be used to open the initial DELIVERY SYSTEM WORKSHEET files in the RCM data library RCMRAWyy referred to in Chapter III. This files will be used for creating enrollment worksheets discussed in Chapter VII.

FIGURE IV-2: SAMPLE COPY

RCM WORKSHEET 1.1

HEADER RECORDS FOR RCM WORKSHEETS A-1,2,3,4

CLASS OF DELIVERY SYSTEM: INSTRUCTIONAL PROGRAM / RELATED SERVICES CODE: 1

Rec Type	PROGRAM CATEGORY (For CLASS=1 ONLY): DESCRIPTION	CATEGORY CODE	NAME
0	REGULAR ELEMENTARY	01	RE__

Rec Type	PROGRAMS AND SERVICES: DESCRIPTION	CATEGORY CODE	PROGRAM OR SERVICE CODE	NAME	UNITS OF MEASUREMENT
1	SELF-CONTAINED CLSRM, GR. 1-3	01	1.00000103	RE-SC13	
1	SELF-CONTAINED CLSRM, GR. 4-6	01	1.00000406	RE-SC46	
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					

FOOTNOTES TO CHAPTER IV

<1> A more comprehensive "GLOSSARY OF TERMS" is also included in Appendix B of this volume.

CHAPTER V

THE RESOURCE LIST

Although the program and service delivery systems form the heart of the RCM, these delivery systems are ultimately defined in terms of configurations of resources. The word "resource" in this context is used to refer to "resource inputs." It encompasses both human and nonhuman capital as well as consumable items used to produce educational programs and services. Accountants and business officers frequently classify these resource inputs by "object codes." Some examples of educational resources include classroom teachers, instructional aides, principals, accountants, custodians, secretaries, textbooks, pencils and paper, computers, and power saws. Each unit of a program or service can be described in terms of some combination of resources necessary to achieve the specified objectives.

The RCM WORKSHEET 2 is designed to facilitate the development of a comprehensive LIST OF RESOURCES. This RESOURCE LIST should be developed prior to the specification of the program and service delivery systems in order to facilitate the specification process. The RESOURCE LIST provides a guideline for the appropriate breakdown of resources to be used to define programs and services. This prespecified list of resources offers two major advantages. First, it provides a consistent breakdown for all programs and services which will facilitate reporting. State and federal agencies often require expenditure data to be reported according to certain object codes. Prespecification of the RESOURCE LIST can ensure that these reporting requirements will be met by the cost data and output produced by the RCM simulation program.

A second advantage to a prespecified RESOURCE LIST is that it can reduce the level of frustration associated with the process of specifying the program and service delivery systems. The reason for this is that program professionals rather than accountants or business officials are generally responsible for developing program and service specifications. This prespecified RESOURCE LIST provides a guideline to these program professional who may be less familiar with budget information and reporting requirements than accountants and business officers.

In addition to its practical advantages, the RESOURCE LIST contains important information used by the RCM simulation program in processing the data. First, the RESOURCE LIST provides a straightforward way of introducing average prices for resources by object code. Second, it allows the user to set certain parameters such as unit prices, useful life and replacement rates for capital resources, and rounding factors. These parameters will apply to any resource with the same object code as long as the parameter is not overridden by data from more specific sources. This issue is dealt with in detail as it becomes relevant in the

discussion of the specification of the RESOURCE LIST below. Third, the RESOURCE LIST provides the computer mnemonics used to identify budgetary and quantity information related to a particular resource. The mnemonic is a name which, in the case of the RESOURCE LIST, may consist of up to six characters and is to be associated with the particular resource and object code. Data points containing information for any given resource associated with a certain object code will always carry the same mnemonic. Finally, the RESOURCE LIST establishes certain codes associated with each resource that match it to other kinds of information required by the program such as a resource cost indices and a generic resource classification scheme.

INSTRUCTIONS FOR FILLING OUT THE RCM RESOURCE LIST WORKSHEET.

A sample of RCM WORKSHEET 2 the resource list is displayed in Figure V-1. It has been partially filled out to illustrate how the information is to be specified. A blank copy of the RCM WORKSHEET 2 is included in the Packet of Worksheets accompanying this volume.

Although it is not essential, it is recommended that one RESOURCE LIST WORKSHEET should be completed for each Class of Delivery System as described in Table II-1. These Classes correspond to the four types of program and service delivery system worksheets that are to be completed by the program professionals and which are described in Chapter VI. Although it is not essential that separate worksheets be filled out, it is generally useful to organize the task in this fashion. The reason for this is that reporting requirements generally tend to vary according to these classes. Also, the level of detail required for these different classes of delivery systems often differ for internal reasons related to the desired cost analyses to be carried out. It is also important to point out that it is not essential to use only these four Classes of Delivery Systems for developing the resource lists. Unique resource lists may be constructed to guide the specification of program and service delivery systems according to more or less detailed classification schemes. However, the four Classes designated in Table II-1 have been found to be sufficient for previous uses of the RCM and are consistent with most schemes for reporting information.

The separate RESOURCE LISTS can be used as a guide for preprinting the relevant object codes, units of measure and resource descriptions on each of the worksheets for the program and service delivery systems. Preprinting the resource lists on the delivery system worksheets can save considerable time and can be important in facilitating the specification process.

RCM WORKSHEET 2

LIST OF RESOURCES

OBJECT OR RESOURCE CODE	RESOURCE DESCRIPTION	RESOURCE NAME	UNITS OF MEASURE	COST INDEX CODE	RESOURCE CLASS	UNIT PRICE	FOR CAPITAL RESOURCES ONLY: YEARS OF LIFE	FOR CAPITAL RESOURCES ONLY: REPLCMNT RATE	ROUNDING UNITS
1110	CLASSROOM TEACHER	TCHCLR	101		1				
1210	PRINCIPAL	PRIN	101		2				
1330	COORDINATOR	INSCOM	105		2				
2310	SECRETARY	SEC-YR	101		4				
4520	OFFICE SUPPLIES	OSUØØS	201		5				
6510	INST. EQUIP REPLACE	EQRAØ3	201		5				

Each of the columns contained in the RESOURCE LIST WORKSHEET is described below.

OBJECT (RESOURCE) CODE. This is the identification code for each resource. It may be up to 10 characters in length and may consist of alphabetic as well as numeric characters. Accounting codes designating budget line items would serve as appropriate object codes.

RESOURCE DESCRIPTION. This description may be up to 25 characters in length and should be designed to describe the particular resource category as accurately as possible.<1>

RESOURCE NAME. This is the mnemonic that will be used to identify all input and output data corresponding to this particular resource. It may be up to 6 characters in length and should begin with an alphabetic character.<1> Although SAS conventions would permit up to 8 characters in variable names, the RESOURCE NAME is limited to 6 characters since the RCM simulation program automatically adds a two character prefix to each resource name in order to identify a particular resource with one of the worksheets used to specify the program and service delivery systems. A new RESOURCE NAME must be designated for each unique combination of object code and units of measure code.

UNITS OF MEASURE. In this column, the user should identify the units in which the particular resource is to be measured. The object or resource code in combination with the code for the units of measure uniquely identifies a resource. That is, any given object code may appear more than once on the resource list as long as it is associated with different units of measurement. The RESOURCE NAME must also be unique to any combination of object code and units of measure code. If a given combination of object and units of measure code appears more than once (e.g., on one of the RCM RESOURCE LIST WORKSHEETS corresponding to different classes of delivery system worksheets), then it is essential that the same RESOURCE NAME be designated in both cases.

The possible codes for the units of measure are as follows:

PERSONNEL:	EXPENDABLES:
101 = FTE (Full-time-equivalents)	201 = Dollars/Year ($/yr)
102 = Hours/Year	202 = Quantity/Year (Qty/yr)
103 = Days/Year	
104 = Weeks/Year	CAPITAL (Life>=2 years)
105 = Months/Year	301 = Startup Cost (SU $)
106 = Stipend	302 = Startup Quantity (SUQ)

No other codes for units of measure for resources is permissible without changing the internal workings of the RCM computer simulation program.

COST INDEX CODE. This code associates each category of resource with a particular resource cost index.<2> In general, many different specific resources will be associated with a given resource cost index code. These cost index codes are generally used only when the RCM is supporting the state model (SFPM). The resource cost indices are generally designed to reflect geographic price differences for comparable resources and are not pertinent in applications supporting the EPBM. For applications of the RCM supporting the EPBM, no COST INDEX CODE need be recorded.

Suggested cost index codes are designated below. (This coding structure is only suggested and is not required by the RCM program.) The cost index code is a two-digit code. It is IMPORTANT to note that however many codes might be used, they must be SEQUENTIAL beginning with 01 and the last code used must refer to a constant index of all 1.000. This "unit index" is used for resources that have not been assigned to other specific indices. The COST INDEX CODE must be NUMERIC.

CODE	DESCRIPTION
01	Teachers Cost Index
02	Instructional Support Personnel Index
03	School Administration and Support Personnel Index
04	District Administration and Support Personnel Index
05	Instructional Aides Index
06	Secretarial-Clerical Personnel Index
07	Custodial-Maintenance Personnel Index
08	Transportation Personnel Index
09	Food Services Personnel Index
10	Purchased or Contracted Services Index
11	Supplies and Materials Index
12	Capital Equipment Index
13	Energy Cost Index
14	Unit Index (1.000)

RESOURCE CLASS. The RESOURCE CLASS is a code that associates each resource in the list with a broad classification of resources. This information is used by the RCM simulation program to attach inflation parameters (see the discussion of the SIMULATION PARAMETERS in Chapter X) and to organize the data on resources for printing and other functions. The list of established RESOURCE CLASS codes is presented below.

CODE	DESCRIPTION
1	TEACHERS
2	OTHER CERTIFIED PERSONNEL
3	INSTRUCTIONAL AIDES
4	OTHER CLASSIFIED PERSONNEL
5	EXPENDABLE ITEMS

6 ENERGY RESOURCES
7 CAPITAL RESOURCES

UNIT PRICE. The user may record the "standardized" unit price of the resource in this column. The word "standardized" in this context may refer to any selected standard for price determination. It may refer to an average, a maximum, a minimum, or a selected point on a salary scale (for personnel). For example, if the resource is classroom teachers and the units of measure is FTE, then the unit price might be recorded as the average annual compensation (including salaries and benefits) of a full time teacher.

This is only one of three places in which information on UNIT PRICE of resources may be recorded. UNIT PRICE may be recorded on, and/or calculated from, the

(1) DELIVERY SYSTEM WORKSHEETS (see Chapter VI);

(2) EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE (see Chapter VIII); or

(3) RESOURCE LIST.

These sources are arranged in the order of priority for utilization of the UNIT PRICE information. If UNIT PRICE for a resource is recorded on the DELIVERY SYSTEM WORKSHEETS, then this will override the UNIT PRICE taken from any other source. If no UNIT PRICE is recorded on the DELIVERY SYSTEM worksheet, then a value is searched for from computations derived from the ASSIGNMENT file (for personnel resources only). If no UNIT PRICE is found from this source, the last source selected is the RESOURCE LIST. Thus, the UNIT PRICE recorded on the RESOURCE LIST for a given category of resource becomes the price of last resort and is used only if information is unavailable from all other sources. One could conceivably record an average price that would be useful for almost all resources in a given category (i.e., defined by the OBJECT CODE and UNITS OF MEASURE) and, at the same time, could record a different UNIT PRICE for this same category of resource specified for a single program on the DELIVERY SYSTEM WORKSHEETS. Thus, the same resource could be assigned two different prices depending on the program with which it is associated. NO UNIT PRICE NEED BE RECORDED FOR RESOURCES ALREADY SPECIFIED IN UNITS OF MEASURE CORRESPONDING TO DOLLARS PER YEAR (code 201) OR STARTUP COSTS (code 301), SINCE THE COST OF A DOLLAR OF EXPENDITURE IS SIMPLY A DOLLAR. The RCM program automatically recognizes this kind of resource and treats these data accordingly.

Suppose, for example, all coaches were paid exactly the same stipend (UNIT PRICE) except for the football coach who receives a stipend twice that of other coaches. The standardized price applying to all coaches could be recorded on the RESOURCE

LIST for the OBJECT CODE and UNITS OF MEASURE corresponding to coaches, while this same OBJECT CODE and UNITS OF MEASURE might be associated with a different stipend on the DELIVERY SYSTEM WORKSHEET filled out for the football program.

If the RCM is being used to support the SFPM, then this is probably the best place in which to record the UNIT PRICE. It reduces the amount of calculations within the program (by avoiding processing of the ASSIGNMENT FILE which could be quite cumbersome at a state level, even if it is available) and simplifies the process of making changes in the source data. The standardized price used in this instance may be the state average price for the resource (e.g., average compensation for some class of personnel) or it may be the average price for the resource within a selected geographic region, school district or some other jurisdiction that the user selects as a benchmark. One further factor to recognize is that when used to support the SFPM, the UNIT PRICES recorded for each resource will likely be adjusted by a series of resource cost indices for various geographic regions or local districts to reflect the variations in the cost of comparable resources in these different locations.

If the RCM is being used to support the EPBM, then the UNIT PRICE particularly for personnel is likely to be best derived from the processing of the ASSIGNMENT file. This file is generally based on a combination of payroll records and employee job assignments and can provide very detailed breakdowns of average salaries and benefits that will be useful for other budgetary purposes. This is further discussed in Chapter VIII. For certain non-personnel resources, the DELIVERY SYSTEM WORKSHEETS may be the best place to record the UNIT PRICES of these resources since the items specified are likely to be quite specific to each individual program. See Chapter VI on the DELIVERY SYSTEM WORKSHEETS for a further discussion of this issue.

YEARS OF LIFE and REPLACEMENT RATE. These two columns are described together because of their interrelationship to one another. These two items are used FOR CAPITAL RESOURCES ONLY as indicated on the RESOURCE LIST WORKSHEET. They are used by the RCM program to annualize the cost of capital resources. Capital resources are generally specified in terms of startup costs or quantities on the DELIVERY SYSTEM WORKSHEETS. For this reason, it is necessary to annualize the costs of capital so these costs can be aggregated along with other resource costs to determine the true total cost of services. YEARS OF LIFE and REPLACEMENT RATE are two items necessary to calculate these annualized costs of capital.

First, a capital resource is one that has a useful life of two or more years. This is what distinguishes it from expendable items. YEARS OF LIFE refers to the useful life of a capital resource. The word "useful" in this context is intended to mean valuable or productive in educational programs or services. If an item becomes obsolete for instructional or administrative

purposes, then it is considered no longer useful by our definition. YEARS OF LIFE will be used to compute annual depreciation charges for capital resources.

REPLACEMENT RATE refers to the cost of capital which is not to be depreciated. The number recorded in this column should reflect that proportion of the fixed capital investment which becomes unusable by the end of the year in which it was purchased. It may become unusable because of theft, vandalism or simply unforeseen breakdown. For example, if a district purchases ten typewriters in a given year, it may expect that on average one of the ten typewriters would be broken, stolen or vandalized beyond repair in the same year it was purchased. The REPLACEMENT RATE would be recorded as 0.10 (=1/10). The remaining nine-tenths of the investment in typewriters would be depreciated over the life of the typewriters.

The annualized cost of capital then may be calculated as follows. Let

K = the initial investment (startup dollars) in a capital resource,

Y = the YEARS OF LIFE, and

R = the REPLACEMENT RATE.

COST = the annualized cost of capital resources.

Then

$$\text{COST} = R \times K + [K - (R \times K)]/Y$$

$$= K \times [R + (1-R)/Y].$$

As an example, suppose the district invested $100,000 (=K) in capital equipment for a given program and these capital items had an estimated useful life of 10 years (=Y). Further assume that it was estimated that about 1/20th (R=0.05) of the capital would be lost in the year of purchase. The annualized cost of capital would be

$$\text{COST} = \$100{,}000 \times [0.05 + (1-0.05)/10]$$

$$= \$100{,}000 \times [0.05 + .095]$$

$$= \$100{,}000 \times [0.145]$$

$$= \$14{,}500 \text{ per year.}$$

As in the case of UNIT PRICE, YEARS OF LIFE and REPLACEMENT RATE may be recorded in multiple locations with much the same effect as for UNIT PRICE. In the case of YEARS OF LIFE and REPLACEMENT RATE there are two places in which such information may be recorded. These are:

(1) DELIVERY SYSTEM WORKSHEETS (see Chapter VI):

(2) RESOURCE LIST.

These sources are arranged in the order of priority for utilization of the corresponding data. If these items are recorded for a particular resource on the DELIVERY SYSTEM WORKSHEETS, then this will override the values derived from any other source. If no information is recorded on the DELIVERY SYSTEM WORKSHEET, then a value is searched for from the RESOURCE LIST. The RESOURCE LIST is the source of last resort. The information on YEARS OF LIFE and REPLACEMENT RATE is used only if information is unavailable from the DELIVERY SYSTEM WORKSHEETS.

ROUNDING UNITS. The final column of the RESOURCE LIST WORKSHEET contains one further optional item of data that may be recorded. These rounding units are used to round off the calculated values of resources to reflect the ways in which resources are actually allocated within a district. For example, employee time may not be reallocated or additional employees may not be hired until there is sufficient pressure to generate the need for an additional half-time person in a particular assignment. If this category of personnel resource were recorded with a UNITS OF MEASURE code of 101 (=FTE), then the ROUNDING UNITS should be recorded as 0.50 on the RESOURCE LIST WORKSHEET. The RCM program will then round off employee counts associated with the corresponding OBJECT CODE and UNITS OF MEASURE to the nearest half-time person. The value of the ROUNDING UNIT recorded on the RESOURCE LIST will override the default values which are recorded in the SIMULATION PARAMETERS for the broad classes of resources. These broad categories of resources are listed below with suggested default values. These are discussed again in the Chapter pertaining to the SIMULATION PARAMETERS.

FOR DESCRIPTION OF CLASS OF RESOURCE	DEFAULT VALUE ROUNDING UNITS
Personnel resources specified in terms of Full-Time-Equivalents	0.20
Hours per year	0.50
Days per year	0.50
Weeks per year	0.50
Months per year	0.50
Any other units of measure (stipend)	1.00

Expenditure and Quantity Items specified in terms of Dollars per year, quantity per year, Startup Costs or Startup quantities	1.00

FOOTNOTES TO CHAPTER V

<1> Items in any worksheet labeled as a description or a name should follow the conventions outlined in the SAS (Statistical Analysis Systems software package) manual for variable names and variable labels. These conventions have been reproduced in Appendix A of this document.

<2> A complete discussion of resource cost indices and the cost of education index adjustments is beyond the scope of the present document. The reader may find further information on cost of education indices in Chambers (1978 and 1981).

CHAPTER VI

THE RCM DELIVERY SYSTEMS

As suggested in the previous Chapter, the RCM methodology is a way of organizing information about the resource configurations and costs associated with educational services. The RCM DELIVERY SYSTEM WORKSHEETS, which are introduced in this Chapter, facilitate this process. These Worksheets were designed specifically to reflect the way in which educational agencies are organized and the way educational services are produced, and these Worksheets will be used to develop resource configurations for the programs and services derived from the processes of filling out RCM WORKSHEET 1, the LIST OF PROGRAMS AND SERVICES, described in Chapter IV.

The DELIVERY SYSTEM WORKSHEETS have been designed to capture as many as possible of the systematic factors that cause cost variations in educational services and in a way to improve the quality of information used in budgeting and planning activities. Some of the critical factors that are reflected in the worksheets include:

- variations in the types of instructional programs and related services offered.

- variations in requirements for instructional programs and related services under different size conditions.

- variations in the need for special equipment.

- variations in the administration and support requirements in different sized programs, schools and school districts.

- variations in the administration and support requirements in different program areas (e.g., elementary, special education; for different types of schools (e.g., elementary schools, high schools, vocational centers); and for different components of general district operations (e.g., executive administration, personnel, fiscal services, operations and maintenance).

Instructional programs and related services may be specified at a relatively aggregative level (e.g., teacher-pupil ratios for regular elementary or special education) or they may be decomposed into very specifically defined courses or services

(e.g., auto mechanics, advanced placement mathematics or self-contained third grade classroom). Program and service specifications are flexible both in terms of the quantities as well as the major categories of resources that may be included. Separate specifications of resource requirements are permitted for the administration and support services required for different categories (collections) of instructional programs and related services, for different kinds of schools, and for different types of central district services. Moreover, separate specifications are requested for programs, schools and districts of different sizes.

The Chapter is organized to facilitate the process of specification of the programs and service delivery systems and illustrates how the DELIVERY SYSTEM WORKSHEETS are to be filled out. Section A provides a general overview of the DELIVERY SYSTEM WORKSHEETS. Section B focuses on the Worksheets for programs and services involving direct service to students. Section C deals with the administrative and support services.

A. The RCM DELIVERY SYSTEM WORKSHEETS

There are four DELIVERY SYSTEM WORKSHEETS for program and service specification corresponding to four CLASSES of delivery systems outlined in Table IV-1. These WORKSHEETS are:

RCM WORKSHEET A-1. Instructional Programs and Related Services

RCM WORKSHEET A-2. School Administration and Support Services

RCM WORKSHEET A-3. Program Administration and Support Services

RCM WORKSHEET A-4. District Administration and Support Services

Thus, one can see that the specification of resource requirements is separated according to whether they represent direct services to children such as instruction and related services (RCM WORKSHEET A-1) or involve administrative and support functions (on RCM WORKSHEETS A-2, A-3, A-4) serving the needs of collections of professionals providing direct child services.

There will be one DELIVERY SYSTEM WORKSHEET filled out for each one of the programs and services specified on RCM WORKSHEET 1, THE LISTS OF PROGRAMS AND SERVICES. The direct services may be specified according to a wide range of detail as to content and resources. Administrative and support functions and services are separated at the school, program and district level. That is, not only are separate worksheets provided for school versus program administration, but each type of school and each type of program category as well as the services within each are specified separately. For example, the resource requirements to operate an elementary school are likely to differ from those required for a high school or a K-12 school. Moreover, the user may desire to break out the elementary school budget

according to general administration, library services, and/or food services. Similarly, the administrative and support resources required to operate a regular elementary program are likely to differ both in types as well as quantities from those required for special education or high school programs. These program administration and support services might also be broken out according to general administration, counseling, and curriculum development.

In summary, the detail with which programs and services are delineated in the LIST will determine the level of detail with which resources are to be specified on the DELIVERY SYSTEM WORKSHEETS. One could conceivably specify one overall program or service for each CLASS OF DELIVERY SYSTEM or one could specify multiple programs and services for each CLASS. The level of detail is determined by the needs of the user for analyzing the cost or expenditure data derived from the RCM. Instructions for filling out each of the DELIVERY SYSTEM WORKSHEETS follow.

B. RCM WORKSHEET A-1. INSTRUCTIONAL PROGRAMS AND RELATED SERVICES

Figure VI-1 is an example of what the RCM WORKSHEET A-1 looks like. A sample program specification has been filled out on the worksheet as an illustration. This sample program has been selected to illustrate all of the types of resources that might be filled out. Each program or service is filled out on a separate DELIVERY SYSTEM WORKSHEET. The number of programs that the RCM can handle is limited only by the limitations of the software package used to write the RCM simulation program and the computer facility being used to run the model.<1>

There are four basic classes of information requested on RCM Worksheet A-1. Each class of information is associated with a particular RECORD TYPE. The RECORD TYPE (i.e., Rec Type) identifies the type of information and the format in which that information is to read by the computer. The four RECORD TYPES are:

RECORD TYPE	TITLE: Description of Record Content.
0	PROGRAM CATEGORY: Category Description, Code and Name
1	PROGRAM: Program Description, Code, Name, School type
2	PROGRAM SIZE: Units of Measure & Class Sizes or Caseloads
3	RESOURCE REQUIREMENTS: Quantities of Resources per Program or Service Unit.

Figure VI-1 contains the HEADER FOR THE PROGRAM CATEGORY

RCM WORKSHEET A - 1

INSTRUCTIONAL PROGRAMS OR STUDENT SERVICES

HEADER FOR THE PROGRAM CATEGORY

Rec Type		DESCRIPTION	CATEGORY CODE	PROGRAM NAME
0	PROGRAM CATEGORY....	REGULAR HIGH SCHOOL	03	RH_CAT

RCM WORKSHEET A - 1

INSTRUCTIONAL PROGRAMS OR STUDENT SERVICES

Rec Type		PROGRAM DESCRIPTION	CATEGORY CODE	PROGRAM CODE	PROGRAM NAME	SCH CAT CODE
1	PROGRAM.....	COMPUTER SCI I, GRDS 9-12	03	131	RH_CSCI	—

		UNITS OF MEASURE*	MINIMUM	TARGET OR CASELOAD	MAXIMUM	MINIMUM NO. SEC. REQD.	CAPITAL ADJUSTMENT
2	PROGRAM SIZE.....	1	24	28	35	1	No

	RESOURCE REQUIREMENTS: DESCRIPTION	OBJECT CODE	UNITS OF MEASURE**	MINIMUM	TARGET OR CASELOAD	MAXIMUM	UNIT COST	FOR CAPITAL RES YRS OF LIFE	FOR CAPITAL RES REPLCMNT RATE	SECTIONS SHARING CAPITAL
3	CLASSROOM TEACHER	1110	101			.20				
4	INSTRUCTIONAL AIDE	2110	102	0	0	90				
5	SET OF TEXTBOOKS	4110	302			35	$ 15			
6	INSTR SUPPLIES/STUDENT	4310	302	14	28	35	$ 2			
7	BASIC FURNISHINGS	6510	301			$3,500		10	.05	5
8	COMPUTERS	6510	302			10	$2,700	5		5
9	DOT MATRIX PRINTER	6510	302			6	$ 600	5		5
10	LETTER QUALITY PRINTER	6510	302			1	$1,800	5		5

*UNITS OF MEASURE FOR PROGRAM SIZE:
1=# of Pupils
2=FTE Teachers
3=FTE Cert Pers
4=FTE Clsf Pers
5=Total FTE Pers
6=# of Schools
7=Sq Ft Bldg
11=# of Mtgs/Yr
12=# Wrk Stations
13=# of Babies
14=# of Credits
15=# Pupil Hrs/Day
21=# of Meals/Day
22=FTE Pupils
25=# Identfd Pupils
45=# of Sch Dist

**UNITS OF MEASURE FOR RESOURCES:
PERSONNEL:
101=Annual FTE
102=Hours/Year
103=Days/Year
104=Weeks/Year
105=Months/Year
109=Spec Service
EXPENDABLES:
201=Dollars/Year
202=Quantity/Year
CAPITAL (life >= 2 yrs):
301=Startup Cost
302=Startup Qty

which provides for complete identification of the program category and code. Information specified on the total quantities of instructional resources is ultimately used to cost out instructional programs, while the information on class sizes and caseloads is used in conjunction with data on student enrollment to determine the number of program or service units to be budgeted for each school and/or district included in the analysis. Alternatively, the number of program or service units may be prespecified by the user and the class size or caseload information will be used only to determine average allocations of resources and costs by program. Information indicated on the program description and identification is used in subsequent RCM Worksheets and ultimately by the simulation program for cross referencing programs to administrative and support services.

What follows is a detailed description of how data are entered on the RCM WORKSHEET A-1. Part of this description will include how particular items of data are used by the model where this is important to helping the user understand how to fill in items of data.

The reader should note that the program and service labels, names and codes referred to below should be based on the classification scheme and the LIST OF PROGRAMS AND SERVICES derived therefrom. In this context the words "description" and "label" are used interchangeably. In Chapter IV, the word "description" also referred to a longer (more than 40 characters) explanation of the program or service. The conventions for devising the labels, names and codes used on the DELIVERY SYSTEM WORKSHEETS and referenced in the discussions below are more fully discussed in Chapter IV, Section B.

1.1 RECORD TYPE = 0: IDENTIFICATION OF THE PROGRAM CATEGORY.

Record type 0 contains the identifying information for the program category. Recall that the program category refers to a collection of individual programs and services that are related to one another through content, classes of students served (i.e., student need), or age/grade levels of students served. The program categories and the collections of programs included within each may be set at the discretion of the user. The RCM will use the designated program category as one of the levels at which data may be summarized for purposes of cost analysis.

Three items of information must be recorded in this RECORD TYPE.

DESCRIPTION. The user should fill in this cell with a LABEL for the program category of up to 40 characters in length, e.g., "Regular High School." This description will be used to create variable labels in the RCM, and therefore, they should follow the conventions for the creation of variable labels discussed in Chapter IV.

CATEGORY CODE. This code uniquely identifies the program category and may contain up to 10 characters including numerics, alphabetics as well as other special characters (e.g., commas, dashes, periods). This category code will also be recorded on each individual worksheet for any individual program included within the program category. In our sample worksheet, the program category is '03'.

CATEGORY NAME. The category name may be up to 8-characters in length and will be used as a variable name by the RCM computer program. This name must begin with an alphabetic character. The remaining characters may be alphabetic or numeric characters or underscores. This name will be used to identify input and output items of data (e.g., enrollment, cost and quantity information) associated with this program category and created by the RCM computer model. The CATEGORY CODE and NAME must bear a one to one correspondence to one another.

1.2 RECORD TYPE = 1: PROGRAM IDENTIFICATION.

Record type 1 contains the identifying information for the individual program or service. Five items of information must be recorded in RECORD TYPE 1.

DESCRIPTION. The user should fill in this cell with a program or service label of up to 40 characters in length, e.g., "Computer Science 1, Gr 9-12". This label will be derived from the information recorded on the RCM WORKSHEET 1, THE LISTS OF PROGRAMS AND SERVICES discussed in Chapter IV.

CATEGORY CODE. Record in this cell the code for the program category to which this program or service belongs. In our sample worksheet, the computer science course we have selected is included under the "Regular High School" program category '03'.

PROGRAM CODE. The program code uniquely identifies the individual program within the program category. This program code may contain up to 10 characters including numerics, alphabetics as well as other special characters (e.g., commas, dashes, periods). In order to uniquely identify an individual program or service outside of its respective program category, one must use the CATEGORY and PROGRAM CODES in combination. In our sample worksheet, the program code is '131'. The RCM will combine these codes into a single overall program code designated '03.131' in order to uniquely identify the computer science program.

PROGRAM NAME. The program name may be up to 8-characters in length and will be used as a variable name by the RCM computer program. This name must begin with an alphabetic character. The remaining characters may be alphabetic or numeric characters or

underscores. This name will be used to identify input and output items of data (e.g., enrollment, cost and quantity information) associated with this program and created by the RCM computer model. The PROGRAM NAME uniquely identifies the program and should bear a one to one correspondence with the combined CATEGORY and PROGRAM CODE (e.g., Computer Science I, Gr 9-12 is uniquely identified by the code '03.131' and the name RH_CSC1).

SCHOOL CATEGORY CODE (SCH CAT CODE). The school category code identifies the type of school in which this program is offered. If this program is offered in a regular senior high school, then the code corresponding to regular senior high school should be recorded in this cell. The school category code recorded should be the same as that used on the RCM Worksheet A-2. The school category code need be recorded ONLY when the unit of measurement for school size for this school category is 'FTE Teacher.' This category code is used to aggregate the FTE teachers in programs offered within the same school type. This aggregate then becomes the number from which the total school units and/or the average resources per school are determined by the model. IF SCHOOL SIZE IS MEASURED IN NUMBERS OF PUPILS (rather than FTE Teachers), THEN THE SCHOOL CATEGORY CODE NEED NOT BE RECORDED IN THIS CELL. In our sample worksheet in Figure VI-1, no information is recorded since we have assumed school size is measured by numbers of pupils.

1.3 RECORD TYPE = 2: PROGRAM SIZE.

Record type 2 requires information to be recorded about the size parameters for the program or service unit. Six items of information must be recorded in RECORD TYPE 2.

UNITS OF MEASURE. The user should record the units in which program size is measured. This unit of measure for programs specified on RCM Worksheet A-1 is most commonly in terms of numbers of pupils. The codes for UNITS OF MEASURE OF PROGRAM SIZE are designated at the bottom of the RCM WORKSHEETS for easy reference. The code for number of pupils is '1'. If no code for units of measure is recorded, the program assigns a default value of '1'.

The major purpose of recording information on units of measure for program size is to remind the user of how the numbers are defined and what they mean. These codes designate formats that are used when processing and printing input and output data from the RCM. These formats are built into the RCM computer program and will be printed out along with the units of measure codes where appropriate. The units of measure of program size should provide information that will assist those specifying resource requirements for programs and services.

For example, specifying the resources for a program where numbers of pupils (i.e., total head count) served is the unit of measure is different from specifying resources for program using

number of student credit hours or number of pupil hours per day. Some preschool programs are more likely to use these kinds of measures than are regular programs since the amount of time each student spends in the program may vary considerably.

Unit of measure codes 1 through 7 are built into the RCM. However, the user may use other codes between 10 and 99 for alternative units of measurement. Usually, few additional codes will be desired. Moreover, often these codes are used on one type of RCM Worksheet (e.g., A-1, 2, 3 or 4). A useful practice is to assign A-1 codes from 10-19, the A-2 codes from 20-29, etc. Thus, the first digit designates the worksheet (1,2,3,4), while the second digit (0-9) designates up to 10 different units of measure. If more than 10 different codes are required for any given worksheet, any of the codes available between 10 and 99 may be used. Additional units of measure codes may be built into the RCM program by adding the codes and their corresponding formats to the file named UNITFMT contained in the RCM852 programs. (For more detail the reader is referred to Chapter X for a discussion of the RCM programs and their utilization.)

UTILIZATION OF PROGRAM SIZE INFORMATION. The RCM computer program uses one of two methods for determining the numbers of program or service units to be budgeted. One alternative is simply to allow the user to count the actual number of program or service units of any given type. This option is discussed more fully in the Chapter VII on program enrollments and levels of service. The other alternative method is to determine the number of program or service units through computations comparing total program enrollments (for each program) with the program size specifications on RCM Worksheet A-1. This second option is the default for the RCM computer program and is discussed below.

In describing how to fill out the MINIMUM, TARGET OR CASELOAD, and MAXIMUM cells in this record, it is useful to distinguish between classes (or courses) and caseloads in specifying program sizes.

SPECIFICATION OF CLASS (COURSE) SIZE. A program that is to be specified as a CLASS (or COURSE) is one for which additional students do not generate the need for a proportional increase in all resources. Self-contained classes or high school courses are typical examples of this kind of program. For example, a third grade class of 28 students will not look substantially different from that same class with only 24 or 32 students. At all three sizes, the class is likely to have one full time teacher and to contain pretty much the same basic furnishings and equipment. A class (or course) will require filling out all three cells (MINIMUM, TARGET, MAXIMUM) relating to program size. Fractional units of a class or course are not budgeted Unless otherwise specified. These three cells are defined as follows in this instance:

(a) MINIMUM. The minimum program size is the number of students (or whatever unit of measure is used) necessary to

operate the first full program or service unit. This number is ONLY RELEVANT in relation to the first full unit, and thus, it pertains only to the small school (or district) situation. Beyond the first unit, minimum program size does not affect the simulation in any way (e.g., in determining the number of units to be budgeted). If total enrollment is below the minimum, then resources may be budgeted as a fraction of the total unit. This fraction is determined by the ratio of total program enrollment to the minimum size specified for the program. If the minimum size is specified at 15 students and the total enrollment for this program in the school is 12 students, then the program would be budgeted at 80% (=100 x 12/15). (See the discussion of MINIMUM NO. SEC. REQD. for an exception.)

(b) TARGET. The target program size is the "desired" size of one full program unit. This number should represent what is pedagogically most desirable within the constraints of what can reasonably be afforded.

(c) MAXIMUM. This number should reflect the maximum number of students that you would permit within a single program unit. If total program enrollment exceeds this number, then an additional program unit would be budgeted.

SPECIFICATION OF A CASELOAD. A program that is specified as a CASELOAD is one where additional students will tend to generate the need for a proportional increase in personnel time and other nonpersonnel resources. Typical examples of programs that would be specified in this manner would be speech therapy, elementary physical education provided by a specialist teacher, and itinerant services provided for remedial education. If the program is specified as a CASELOAD, the cells labeled MINIMUM and MAXIMUM need not be completed. Only the cell designated CASELOAD needs to be specified. Typically, the number recorded for a caseload reflects the total number of students that may be served by a full-time professional. Fractional units may be budgeted at all levels.

MINIMUM NO. SEC. REQD. The minimum number of sections required refers to the minimum number of units of this program that need to be generated in order to be funded or budgeted within the cost analysis. The number specified in this cell offers the user a way of ensuring a sufficient level of enrollment to make efficient use of personnel and nonpersonnel resources that might be allocated to this program. If number of program or service units is based on the class size and caseload specifications described above and this calculated number of units is less than the number recorded in this cell (i.e., the minimum number of sections required), then the number of program units will be set to zero by the RCM computer program. THE DEFAULTS ON THIS VALUE ARE 1.0 FOR PROGRAMS SPECIFIED AS CLASSES OR COURSES (i.e., any program where the MINIMUM, TARGET, and/or MAXIMUM sizes are all different numbers) AND 0 FOR PROGRAMS SPECIFIED AS CASELOADS (i.e., any program for which MINIMUM and MAXIMUM sizes

have not been completed).

One example where this feature might be useful is in the case of a specialized vocational education course requiring substantial investment in special equipment. The purpose in this case of specifying such a minimum is to insure that the district has sufficient enrollments in the course (or program) so that the equipment is fully utilized. The minimum number of sections might be set at 6 units. This program would then not be budgeted unless it was believed that sufficient enrollments would be forthcoming so as to generate at least 6 program units.

This option can be switched off by setting DOIUMIN to 0 in the simulation parameters (See Chapter X). The basic impact of switching this option off is to permit FRACTIONAL FUNDING OF PROGRAMS SPECIFIED AS CLASSES OR COURSES WITH TOTAL ENROLLMENTS BELOW THE MINIMUM LEVEL.

EXAMPLES OF HOW CLASS SIZES AND CASELOADS ARE USED BY THE RCM. To explain how class sizes and caseloads are used in the RCM computer simulation program, the following examples are based on two sample programs. The following computations are carried out within the RCM simulation program to determine the number of instructional program units to be budgeted for any given district.

EXAMPLE 1. A Self-contained grades 1-3 with a target class size of 22, a maximum class size of 28 and a minimum class size of 12.

We shall assume for the purposes of this example that the total student membership in the designated instructional program is 83 pupils in the sample school. The computational steps carried out by the program are as follows:

Step 1. Compute the ratio of total student membership to the target class size.

RATIO=Program membership/Target size

=83/22

=3.77 Initial Number of Units to be Budgeted.

Step 2. Round the initial value of the number of instructional units to be budgeted in Step 1 down to its integer value.

INTEGER VALUE (3.77) =3.0 units

Step 3. Using the INTEGER VALUE of units from step 2, determine what the average unit size (student membership) would

be if that number of units were budgeted.

AVERAGE UNIT SIZE=Program membership/INTEGER VALUE

=83/3.0

=27.67

Step 4.

a. If the AVERAGE UNIT SIZE determined in Step 3 is less than the MAXIMUM UNIT SIZE, then the number of units to be budgeted is set equal to the INTEGER VALUE determined in Step 2.

b. If AVERAGE UNIT SIZE determined in Step 3 is greater than the MAXIMUM UNIT SIZE, then the number of units to be budgeted is set equal to the INTEGER VALUE PLUS ONE.

In our example,

AVERAGE UNIT SIZE IS LESS THAN MAXIMUM UNIT SIZE, i.e. 27.67 IS LESS THAN 28;

therefore, the number of instructional units to be funded would be equal to the

INTEGER VALUE or 3.0 program units.

Step 5. The final step is to make sure that the number of program units calculated in Step 4 is greater than or equal to the minimum number of units required (Default=1).

As an alternative, suppose that total student membership in our sample program is 87 students. Each step would then generate the following computations:

Step 1. 87/22=3.95.

Step 2. INTEGER VALUE (3.95)=3.0

Step 3. 87/3.0=29

Step 4. 29 is greater than 28 and therefore

NUMBER OF UNITS TO BE BUDGETED = 3.0 + 1 = 4.0 units.

Note that up to this point, the MINIMUM UNIT SIZE has played no role in determining the number of units. The minimum unit size specified on RCM worksheet A-1 is used solely for the purpose of determining at what point the first full unit will be funded.

If the district's student membership in this program is less than the minimum unit size, then no units of the program will be budgeted unless the simulation parameter DOIUMIN is set to 0 (see Chapter X on the Simulation Parameters). The default minimum number of units for a class or course is 1.0. If DOIUMIN is set to 0 and the minimum units is set to 0, then a fraction of a unit will be budgeted. The fraction is determined by the ratio of student membership to the minimum unit size. Using the example program above, a district with 9 students in membership in the program would receive funding for 9/12 (where 12=the MINIMUM UNIT SIZE) of one full unit and would not receive a full unit until there were 12 students enrolled in the program. The purpose of funding the fractional unit in this way is to provide schools with some flexibility to determine how to provide educational services to students in programs with relatively small enrollment levels. By setting this minimum unit size, the user also establishes some limit on the level of support it is willing to provide for small programs.

EXAMPLE 2. A Program Specified as a "Caseload"

To complete our illustration of how the RCM determines program units, let us consider the effect of specifying a program as a caseload rather than as a class. Caseloads are generally specified for programs where the addition of a certain number of students is likely to generate the need for at least some part time professionals or other services. For example, remedial instruction provided in a resource center would probably be best specified as a caseload since incremental funding of the professionals associated with such a program would seem to be warranted. As our example, let us take a program in which the caseload is specified at 50 students. The default currently set in the simulation model rounds the number of program units to the nearest .25 units. This default may be changed within the SIMULATION PARAMETERS discussed in Chapter X.

To illustrate the steps involved in calculating the number of program units for a caseload, let us consider a school with 54 students being served in this program. Then the following computational steps are followed:

Step 1. Compute the ratio of total student membership to the size of the caseload.

RATIO=Program membership/Caseload

=54/50

=1.08 units

Step 2. Round off the initial number of units to be budgeted in Step 1 to the nearest 0.25 program units. This is accomplished using the following formula:

UNITS = .25 x THE INTEGER VALUE OF (RATIO/.25 + .5)

In our example, the RATIO=1.08. Thus, we round 1.08 to the nearest .25 units as follows:

UNITS = .25 x INTEGER(1.08/.25 + .5)

=.25 x INTEGER(4.82)

=.25 x 4

= 1.0

If the district had 58 students in the program, these calculations would have been as follows:

Step 1. RATIO = 58/50 = 1.16 units

Step 2. UNITS = .25 x INTEGER(1.16/.25 + .5)

=.25 x INTEGER(5.14)

=.25 x 5

= 1.25

Figures VI-2 and VI-3 have been prepared as graphic illustrations of the way in which student enrollments in programs are related to the number of units to be funded. Figure VI-2 pertains to the first example above which is based on the class size specification, while Figure VI-3 is based on example two using a caseload. In the first example, prior to the first unit, the funding is linearly related to the number of students. Once the first unit of funding is reached, the relationship is represented by a step function. Each new unit of the instructional program is added once the number of students is such that at least one of the original number of units would exceed the maximum size. Once this maximum unit size is exceeded, an additional instructional program unit is funded.

CAPITAL ADJUSTMENT. A second feature of the A-1 Worksheet relating to equipment is the ability to adjust the specification of the dollar allocation to special equipment to reflect the actual number of units among which the special equipment will be shared. For example, when the vocational education or for that matter any secondary programs are specified the dollar allocations to

FIGURE VI-2
PROGRAM UNITS TO BE FUNDED IN RELATION TO TOTAL PROGRAM ENROLLMENT
PROGRAM NUMBER 102--SELF CONTAINED CLASSROOM GRADES 1-3

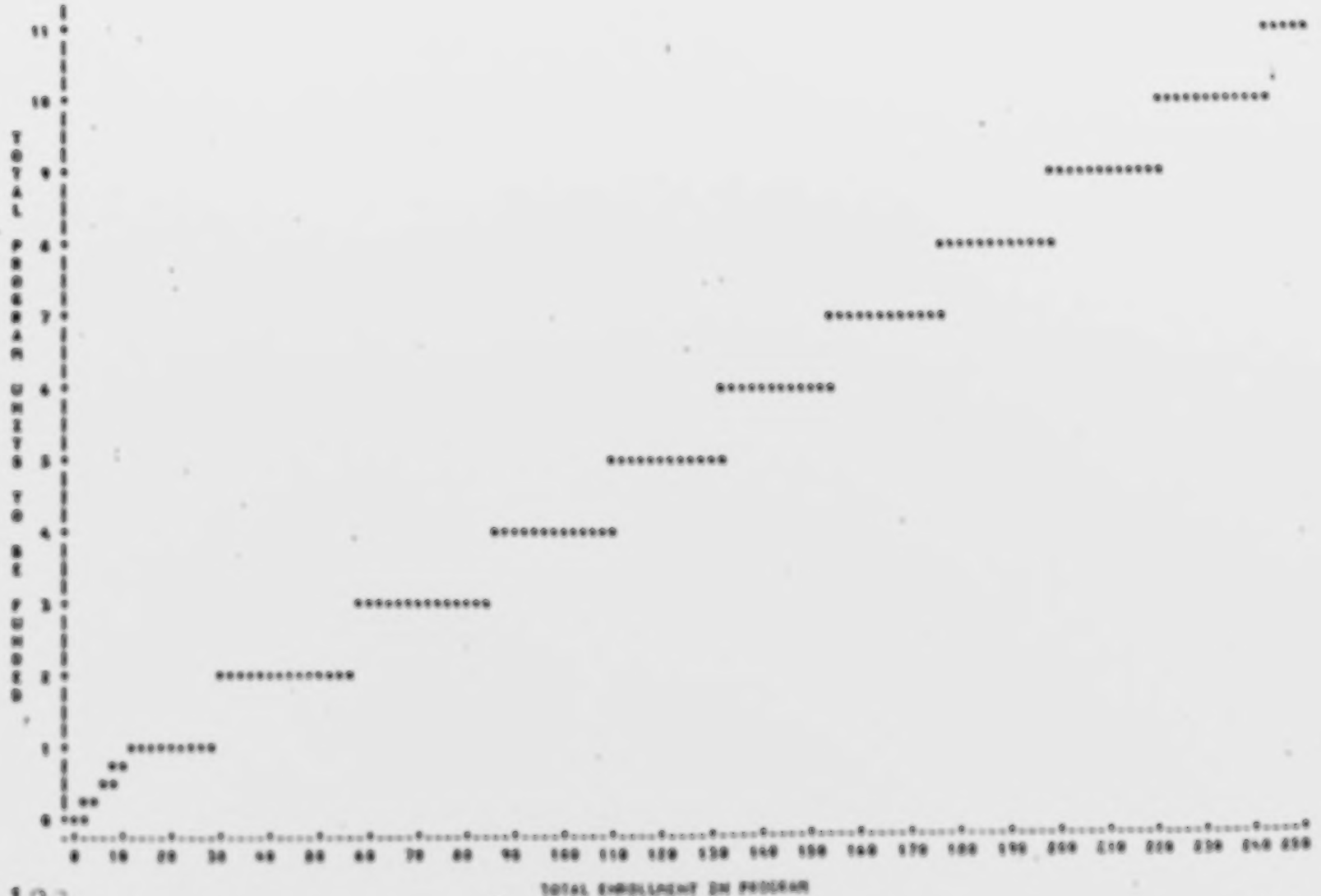
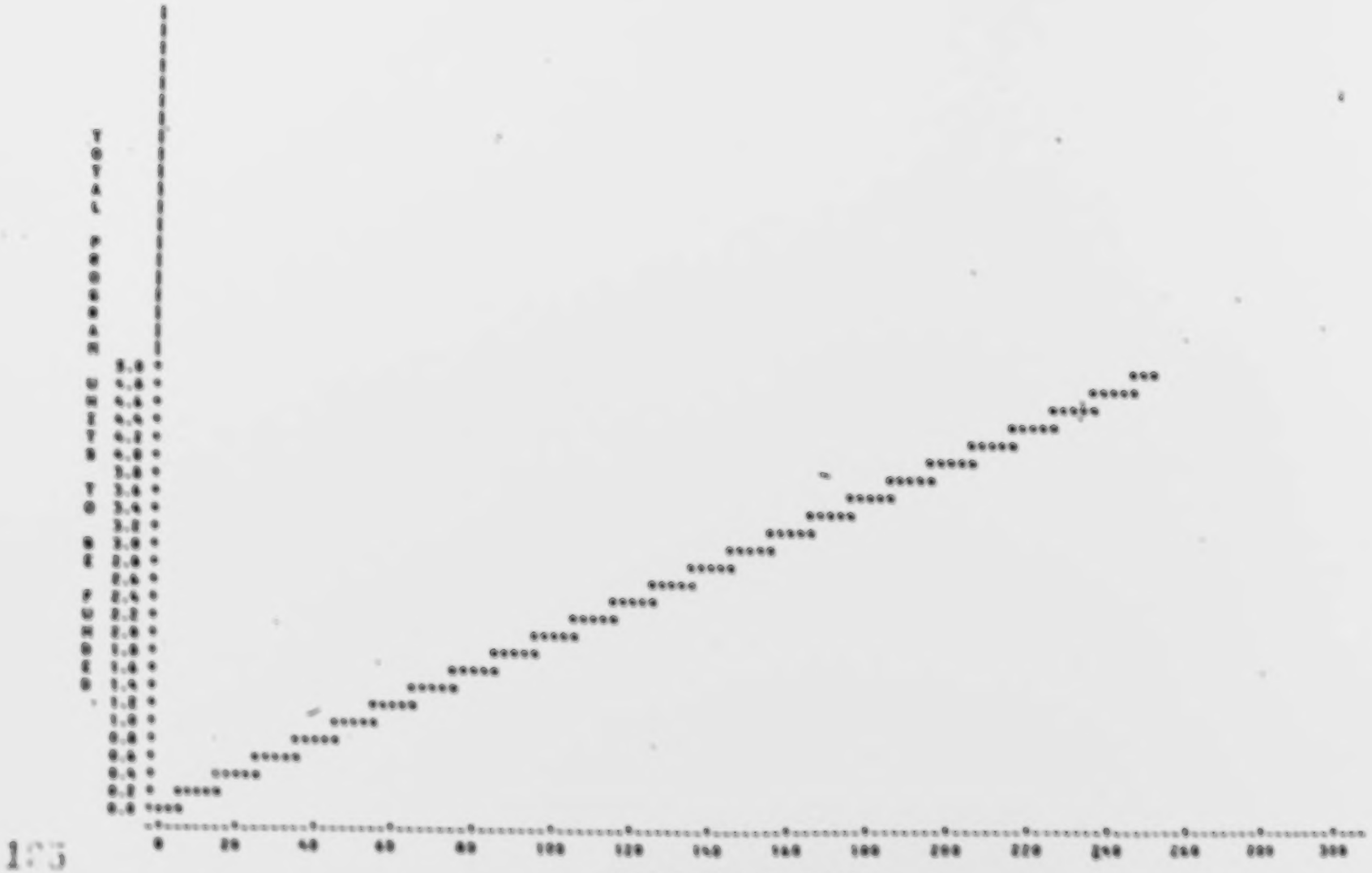


FIGURE VI-3

PROGRAM UNITS TO BE FUNDED IN RELATION TO TOTAL PROGRAM ENROLLMENT
PROGRAM NUMBER 103--REMEDIAL INSTRUCTION K-8



special equipment may be based on the assumption that the equipment would be used by some given number of other classes (e.g., five classes per day). Thus, the special equipment allocation for any one course reflects only a portion of the actual dollar expenditure required to provide the course. With five classes per day sharing the equipment the allocation of special equipment expenditure reflects one fifth of the yearly allocation. If a program is deemed important enough, decision makers may decide that even if the district has relatively small enrollments in the program it should nevertheless be provided and the required equipment should be fully funded. RCM Worksheet A-1 allows the user to specify the number of classes assumed to share special equipment in the section labeled RESOURCE REQUIREMENTS (see the column labeled SECTIONS SHARING CAPITAL). If this adjustment of the capital allocation is desired, then the user must record a 1 in the cell labeled CAPITAL ADJUSTMENT. Otherwise, the default value of 0 (=no adjustment) is assumed. If a 1 is recorded, then the computer model will automatically adjust the allocation of special equipment dollars to reflect the actual number of units in the school that will be sharing the equipment. The effect of this parameter on RCM computer program computations is illustrated below under the discussion of the column SECTIONS SHARING CAPITAL in record type 3.

1.4 RECORD TYPE = 3: RESOURCE REQUIREMENTS.

This section of RCM Worksheet A-1 is designed to record information about the resources required to operate each unit of the program or service designated in record type 1. The remaining rows on RCM Worksheet A-1 are available for specifying all of the personnel and nonpersonnel resource requirements. Each row represents a different resource, and any number of resources may be specified. More than one page (worksheet) may be used if the resource requirements for a given program do not fit on a single page. Figure VI-1 illustrates a variety of ways in which data on resources may be entered on the Worksheet.

This RECORD TYPE includes 10 items of data to be recorded for each resource. The content of each of these columns is discussed in detail below using the examples from Figure VI-1.

DESCRIPTION. The first column asks for a label of the resource of up to 25 characters. Other than the 25 character limitation, the same conventions used in creating program and service descriptions apply. This label can be as specific as the 25 character limitation will allow and does not need to be identical to the description corresponding to the resource with this same object code and unit of measure recorded on the RESOURCE LIST discussed in Chapter V. This description will appear in the print out of the RCM WORKSHEETS created by the computer program.

OBJECT CODE. The object (resource) code may be up to 10

characters in length and is used to identify the type of resource. The same object code may appear more than once among the resources listed within a given program. Notice, for example, in Figure VI-4, that the resource code 6510 appears four times and that each time it appears it has a unique description. The object code 6510 corresponds to the resource type INSTRUCTIONAL EQUIPMENT, but it is used to record resource requirements for a very specific list of items for this program. When the WORKSHEETS are printed out for review by the user, it retains these specific descriptions so that the user may recall the source of information. The version of the WORKSHEET datasets which is saved for processing and cost analysis by the RCM computer program uses simply the resource description derived from the RESOURCE LIST (e.g., INSTRUCTIONAL EQUIPMENT in our example above).

UNITS OF MEASURE. Resource requirements may be specified using a variety of units of measurement. The user should record in this column the units of measurement used to specify each resource. The codes for the various units of measure are displayed at the bottom of the blank worksheets for reference. These codes determine the way resource information will be processed and must be accurately recorded. No other units of measure may be used other than those designated at the bottom of the Worksheet.

Personnel resources are most often recorded in terms of FTE's (Full-Time-Equivalents) or in hours, days, weeks or months per year. The code for special service allows recording one time payments or stipends for services rendered rather than for periods of time. Although personnel resources may also be recorded as dollars per year, this measure is most commonly used for expendable or consumable supplies and materials. A second option for expendable items is quantity per year.

Measures for capital resources include startup cost or quantity. Capital resources are those items which have a useful life of 2 or more years. As in our example, this includes not only basic classroom furnishings and special equipment (e.g., computers), but also textbooks.

RESOURCE REQUIREMENTS BY SIZE CLASS: MINIMUM, TARGET OR CASELOAD, MAXIMUM. These three columns correspond directly to the program size classes specified in RECORD TYPE 2. In each case, the amount of the resource entered into each cell should be to the amount required to provide the program or service unit in the corresponding size class. If the program is specified as a CASELOAD, then the resource requirements need only be filled out in the center column under TARGET OR CASELOAD.

If the program is specified as a CLASS OR COURSE, then a variety of options are available. To illustrate the alternative ways in which resources may be recorded, let us review the resource requirements specified for our sample program, Computer Sci 1, Gr 9-12, in Figure VI-1.

(a) If the resource requirement for a given resource is the same at all size levels, then the amount of the resource need only be recorded under the maximum. The model automatically recognizes this as the same as recording the same number in each of the three size classes. All but two of the resources in our sample program have used this convention. The two exceptions are the instructional aide and consumable supplies (i.e., rows 2 and 4, or object codes 2110 and 4310, respectively). Using the classroom teacher as an example, this convention indicates that whether a class enrolls 24 or 35 students, it will necessitate the allocation of one-fifth (0.2) of an FTE teacher (Unit of measure=101).

(b) If different amounts of a resource are required for each size level, then designate the appropriate amounts under each of the size classes. In the case of the aide time specified in row 2, the program specification indicates that no aide time is required at the minimum and target size levels. However, as the program approaches the maximum some aide time is made available. If the average class size in the school or district is 35 students, then 90 hours per year (unit of measure=102) would be allocated to the program. If average class size falls between 28 and 35, then the 90 hours of aide time would be allocated proportionately. Instructional supplies would also be allocated proportionately depending upon the actual average size of the program unit.

UNIT COST. The amount recorded in this column should be the cost per unit of this resource. A unit of this resource is defined in terms of the UNITS OF MEASURE. For example, if the resource is in FTE, then the unit cost is the total annual FTE salary and benefits for the corresponding category of personnel. A personnel resource recorded as hours per year (units of measure=102) should have an hourly wage and benefits number recorded. Resource requirements specified in terms of dollars (i.e., 201=Dollars/year or 301=Startup Cost) need no unit cost recorded.

As discussed in Chapter V under UNIT COST on the RESOURCE LIST, UNIT COST data may be derived from any one of three sources: (a) the DELIVERY SYSTEM WORKSHEETS, (b) the EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE, and (c) the THE RESOURCE LIST. THE UNIT COST RECORDED ON THE RCM WORKSHEETS OVERRIDES THE VALUE OF THE UNIT COST DERIVED FROM ANY OTHER SOURCE FOR A GIVEN RESOURCE.

Two other conventions for recording resource requirements and unit costs used in our sample worksheet in Figure VI-1 are worth noting.

(a) The resource requirement for course textbooks was recorded in terms of "Sets of Textbooks." Textbooks are specified at 35 sets indicating that they are purchased for the maximum possible number of students served. The unit cost recorded in this case is the cost per set of books and each student is assumed

to receive one set.

(b) The resource requirements for "instructional supplies" is specified on a per student basis. The UNITS OF MEASURE is set at 202 (=quantity per year), the resource requirements simply reflect the number of students served at each size level, and the UNIT COST is then simply the estimated (or actual) average cost per student for supplies and materials (e.g., $2.00 per student in the example).

(c) The amounts and/or UNIT COSTS recorded for capital resources should reflect current replacement cost.

FOR CAPITAL RESOURCES ONLY: YEARS OF LIFE, REPLACEMENT RATE, AND SECTIONS SHARING CAPITAL. The next three columns are related to one another and are used exclusively for capital resources. YEARS OF LIFE and REPLACEMENT RATE may be derived from either this DELIVERY SYSTEM WORKSHEET, the RESOURCE LIST or the SIMULATION PARAMETERS. (See the discussion in Chapter V on the RESOURCE LIST.) THE NUMBERS RECORDED IN THE CELLS ON THIS WORKSHEET OVERRIDE THE VALUES DERIVED FROM ANY OTHER SOURCE. The RESOURCE LIST takes the second priority for this information and the default values are those recorded in the SIMULATION PARAMETERS (see Chapter X).

If a unique life is desired for the capital items, then it should be recorded on this worksheet. The YEARS OF LIFE represent the period of time over which the capital resources will be depreciated.

REPLACEMENT RATE reflects the proportion of the initial investment which is expended annually (i.e., not depreciated) due to loss, theft, or damage beyond repair).

SECTIONS SHARING CAPITAL. The number recorded in this column should designate how many other program or service units (i.e., sections) share this same capital. The RCM computer program uses this information to apportion the capital expenditure among the various program units sharing the capital items. The default value for this column is 1.

In our example, the capital resources designated the quantity of the resource necessary to start up a program of this type. The first capital resource is "Sets of Textbooks." No YEARS OF LIFE, REPLACEMENT RATE or SECTIONS SHARING CAPITAL has been recorded for textbooks. This means the default values for each of these items will be filled in automatically by the RCM computer program. The default values for YEARS OF LIFE and REPLACEMENT rate derive from the SIMULATION PARAMETERS, while the default value for SECTIONS SHARING CAPITAL is built into the program and is set to 1. The textbooks, unlike some items of capital, are not shared across other program units or sections. The textbooks are for the exclusive use of the students in each separate classroom.

The remaining four capital resources (those with object code 6510) all have information on the YEARS OF LIFE and SECTIONS SHARING CAPITAL. The REPLACEMENT RATE is set to 0.05 for basic furnishing. This means that 5% of the initial investment is expended each year to replace damaged or stolen furnishings. Each of these capital items is shared across 5 program units (sections) of similar duration (in hours per week). These 5 program units may include 4 other sections of this same program (i.e., Computer Sci 1 classes) or 4 sections of other programs that just happen to use the same special equipment (e.g., a more advanced computer science class).

Using the basic framework outlined in Chapter V, the annualized cost of capital may be calculated as follows. Let

K = the initial investment (e.g., startup cost) for a capital resource

Y = the YEARS OF LIFE,

R = the REPLACEMENT RATE,

S = the SECTIONS SHARING CAPITAL, and

COST = the annualized cost of capital apportioned to each program unit.

Then

$$COST = \{R \times K + [K - (R \times K)]/Y\}/S.$$

Using this algorithm, the annualized cost of basic furnishing for our sample program are determined by the following.

$$COST = \{0.05 \times \$3,500 + [\$3,500 - (0.05 \times \$3,500)]/10\}/5$$

$$= \$101.50.$$

Given this calculation, we can now illustrate how the CAPITAL ADJUSTMENT effects the RCM. If the default is assumed (i.e., no CAPITAL ADJUSTMENT), then the total amount allocated to capital will equal the annualized program unit cost of capital (i.e., $101.50) multiplied by the total number of program units. For the sake of this illustration, let us assume that there were sufficient enrollments to justify three units of this program and that no other program used these items of capital. Then the capital allocation would be $101.50 x 3 = $304.50. The problem is that since only three units were actually budgeted, the total allocation of $304.50 less the annual replacement expenditures will not be sufficient to accumulate a large enough capital fund to permit the district to replace these capital items at the end of the ten year period. A full five classroom units would be required to achieve full capital allocation at the end of the ten years.

There are three alternative perspectives to thinking about a resolution to this problem. One perspective would assume that since the capital in fact was only being shared across 3 program units (course sections), the equipment would not be depreciated as quickly as it would if it were used by 5 full sections. Thus, it would not be necessary to replace the capital fully at the end of the ten years. Since it was being used 40% less, it would last proportionately longer. From this perspective, the capital accumulation would be adequate to replace the capital as necessary. Under this perspective, the cell CAPITAL ADJUSTMENT would be allowed to take on its default value of 0 (=no capital adjustment).

A second perspective, which is similar in outcome to the first, would assume that there is an obligation on the part of decision makers to allocate resources efficiently and to use resources to their fullest capacity. Thus, decision makers would assume that programs sharing capital are going to have to take responsibility for ensuring that these resources are being used to the fullest capacity and arrive at some agreement to share capital resources in any subsequent replacement of capital items. Under this perspective again, the cell CAPITAL ADJUSTMENT would be allowed to take on its default value of 0.

A third and final perspective is that because insufficient funds would be forthcoming with only three units being funded, some additional allocation of capital would be necessary. This approach might be taken if the capital is likely to be obsolete after the period designated under the YEARS OF LIFE so that less usage does not defer the depreciation of the capital. It might also be taken if capital items are highly specialized and are unable to be shared by other programs and program units. To accomplish the additional allocation the user will need to record a 1 (=yes) in the cell corresponding to CAPITAL ADJUSTMENT. The impact of this is to adjust the capital allocation so that no matter how many actual program units are funded, sufficient capital funds will be accumulated to stock a full classroom (even if only used a fraction of the time). The $101.50 would be adjusted as follows. Let ADJ_COST equal the adjusted annualized cost and ACT_UNITS equal the actual number of program units funded. ADJ_COST is determined by solving the following equation:

$$ACT\_UNITS \times ADJ\_COST = S \times COST$$

where S and COST are defined as above. For our example, this would be

$$3 \times ADJ\_COST = 5 \times 101.50$$

so that $ADJ\_COST = \$169.17$.

C. RCM WORKSHEETS A-2, A-3 & A-4: ADMINISTRATION AND SUPPORT SERVICES

These three worksheets focus on administrative and support services at the school, program, and district level, respectively. In designing these forms one of the major factors to recognize is that in schools or districts of different sizes administrative burdens and the requirements for support services will differ in intensity. All operating units require some certain minimum amount of administration and support to function. These requirements for basic administration and support do not always increase proportionately with size. Indeed in larger units, whether one is talking of schools or districts, administrative and support services can be spread over larger numbers of students. At least up to some point, larger units may be more economical to operate. The RCM DELIVERY SYSTEM WORKSHEETS directed at the specification of administrative and support services represent an attempt to reflect these economies and diseconomies.

The basic approach to specifying administrative and support services is to determine what resources would be required for each type of service at various sizes. For each level of administration and support services (i.e., school, program and district), up to four size levels will be selected, and the resources required to provide services at these size levels will be specified. By specifying the resource requirements at these four different size levels, it allows one to begin to determine the affects of size on the variations in administrative and support burdens, i.e., to assess the nature of the economies of scale in terms of the resource requirements.

For each level of administration and support services, a number of worksheets may be filled out. For school level services, one A-2 worksheet should be completed for each individual school type and possibly even for each of the types of services within the school type. For application at the state level, school type would likely provide sufficient detail, while for a local application of the RCM, more detailed budgetary breakdowns are likely to be desired.

For program category administration and support services, one A-3 worksheet may be completed for each one of the program categories designated on the A-1 worksheets. However, it is not necessary to specify an A-3 for each program category if the services are better specified in some other way. Similarly, one may specify more than a single A-3 worksheet for any given program category. Once again the state application of the RCM will tend to require less detailed budgetary specifications than the local application.

For district administration and support services, there are a number of levels of detail possible. A state level application could involve only one or more separate worksheets

for general district administration, while the local level application might involve specification of separate budgets (and hence Worksheets) for such divisions as the superintendent's office, fiscal services, personnel services, educational and curriculum services, operations and maintenance.

Although the administration and support services tend to be of a more general nature and involve a wider spectrum of students and student types, the basic format of the administrative and support worksheets is the same as for the A-1 worksheet. There are a number of small differences between the A-1 and the administrative and support worksheets which reflect the differences in their purpose. There is no header record (TYPE 0) for identification of the administrative and support category since it can generally be identified within the service description. The administrative and support worksheets provide for four size groups labeled Group 1 through Group 4 rather than the three groups MINIMUM, TARGET, MAXIMUM designated on the A-1. Sections sharing capital is not considered relevant to administrative and support services. Capital resources should be allocated and apportioned directly within the specifications if they happened to be shared across services.

Two sample worksheets are presented in Figures VI-4 and VI-5 to illustrate how the administrative and support services are specified. Figure VI-4 presents a sample A-2 Worksheet for school level services: "Elementary School--General Administration." Figure VI-5 presents a sample A-4 Worksheet for district level services: the "Educational Services Division." The A-3 worksheets will most commonly be filled out in the same fashion as the A-4 since the types of services are district level, although focused on specific subgroups of students or courses within the district.

Each administration and support worksheet contains three types of records. These three record types are listed below:

RECORD TYPE	DESCRIPTION OF THE RECORD
1	SERVICE IDENTIFICATION: Description, Code, Name
2	SERVICE UNIT SIZE: Units of Measure and Service Levels
3	RESOURCE REQUIREMENTS: Quantities of Resources per Service Unit

Each of these RECORD TYPES found on the administration and support service worksheets is described below.

SCHOOL ADMINISTRATION AND SUPPORT SERVICES

Rec Type		SERVICE DESCRIPTION	CATEGORY CODE	SERVICE CODE	SERVICE NAME
1	SCHOOL SERVICE.....	ELEM SCH - GEN'L ADMIN.	01	01	ELEM_SCH

		UNITS OF MEASURE*	SIZE GROUP 1	SIZE GROUP 2	SIZE GROUP 3	SIZE GROUP 4
2	SERVICE UNIT SIZE.....	1	0	200	350	500

	RESOURCE REQUIREMENTS: DESCRIPTION	OBJECT CODE	UNITS OF MEASURE**	SIZE GROUP 1	SIZE GROUP 2	SIZE GROUP 3	SIZE GROUP 4	UNIT COST	FOR CAPITAL YRS OF LIFE	FOR CAPITAL REPLCMNT RATE
3	PRINCIPAL	1110	101		1	1	1			
4	SECRETARY	1210	105		10	10	10			
5	HEAD CUSTODIAN	2310	105		12	12	12			
6	NIGHT CUSTODIAN	2410	105		6	12	12			
7	NOON SUPERVISOR	2410	102		450	450	450			
8	FIELD TRIPS	1930	201		700	1,300	1,800			
9	STAFF DEVELOPMENT	4310	201		500	1,000	1,000			
10	MAINT. & REPAIR EQUIP	5000	101		500	500	500			
11	PLAYGROUND EQUIP.	5661	101		4,037	4,037	4,037		15	
12	NON-INSTR. EQUIP.	6510	301		250	250	250		15	
13	CHAIRS	6520	301		200	350	500		15	
14	NURSES ROOM	6520	301		3,411	3,411	3,411		15	
15	PIANO	6520	302		1	1	1	1,206	15	
16										
17										
18										

*UNITS OF MEASURE FOR PROGRAM SIZE:

1=# of Pupils
2=FTE Teachers
3=FTE Cert Pers
4=FTE Clsf Pers
5=Total FTE Pers
6=# of Schools
7=Sq Ft Bldg
11=# of Mtgs/Yr
12=# Wrk Stations
13=# of Babies
14=# of Credits
15=# Pupil Hrs/Day
21=# of Meals/Day
22=FTE Pupils
25=# Identfd Pupils
45=# of Sch Dist

**UNITS OF MEASURE FOR RESOURCES:

PERSONNEL:
101=Annual FTE
102=Hours/Year
103=Days/Year
104=Weeks/Year
105=Months/Year
109=Spec Service

EXPENDABLES:
201=Dollars/Year
202=Quantity/Year

CAPITAL (life >= 2 yrs):
301=Startup Cost
302=Startup Qty

SCHOOL ADMINISTRATION AND SUPPORT SERVICES

Doc Type		SERVICE DESCRIPTION	CATEGORY CODE	SERVICE CODE	SERVICE NAME
1	DISTRICT SERVICE	EDUCATIONAL SERVICES DIV.	05	01	EDUC-SERV

		UNITS OF MEASURE*	SIZE GROUP 1	SIZE GROUP 2	SIZE GROUP 3	SIZE GROUP 4
2	SERVICE UNIT SIZE	1		9,000	8,450	9,900

	RESOURCE REQUIREMENTS: DESCRIPTION	OBJECT CODE	UNITS OF MEASURE**	SIZE GROUP 1	SIZE GROUP 2	SIZE GROUP 3	SIZE GROUP 4	UNIT COST	FOR CAPITAL: YRS OF REPLCMNT LIFE	FOR CAPITAL: REPLCMNT RATE
3	ASST SUPERINTENDENT	1740	101		1	1	1	$38,015		
4	DIRECTOR CURRICULUM	1810	101		1	1	1	$45,946		
5	ADMIN SECRETARY	2310	105		12	12	12	$ 1,735		
6	CLERK TYPIST	2311	105		32.8	32.8	34.8	$ 1,637		
7	SUBSCRIPTIONS	4320	201		$200	$200	$200			
8	SUPPLIES - OFFICE	4520	201		$1,600	$1,600	$1,600			
9	EQUIPMENT REPAIR	4562	201		$2,500	$2,500	$2,500			
10	AUTO REPAIR	4572	201		$ 800	$ 800	$ 800			
11	CONTRACTED SERVICES	5100	201		$4,000	$4,000	$4,000			
12	CONFERENCES	5200	201		$2,000	$2,000	$2,000			
13	PROFESSIONAL MEMBERSHIP	5300	201		$ 300	$ 300	$ 300			
14	EQUIPMENT - REPLACE	6520	201		$2,000	$2,000	$2,000			
15										
16										
17										
18										
19										

*UNITS OF MEASURE FOR PRODUCTION SIZE:
100=# of Pupils
101=FTE Teachers
102=# Cert Pers
103=# Clsf Pers
104=Total FTE Pers
105=# of Schools
106=# of Bldg
107=# of Bldgs/Yr
108=# WH Stations
109=# of Babies
110=# of Credits
111=Pupil mrs/Day
200=# of Meals/Day
201=FTE Pupils
202=# Identified Pupils
203=# of Sch Dist

**UNITS OF MEASURE FOR RESOURCES:
PERSONNEL:
101=Annual FTE
102=Hours/Year
103=Days/Year
104=Weeks/Year
105=Months/Year
106=Spec Service
EXPENDABLES:
201=Dollars/Year
202=Quantity/Year
CAPITAL (Life >= 2 yrs):
301=Start-up Cost
302=Start-up Qty

2.1. RECORD TYPE = 1: SERVICE IDENTIFICATION

This record contains four items designed to identify the type of administration and support service being specified.

DESCRIPTION. This is a description of up to 40 characters and is developed from RCM WORKSHEET 1, THE LISTS OF PROGRAMS AND SERVICES discussed in Chapter IV.

CATEGORY CODE. This is the CATEGORY CODE within the CLASS OF DELIVERY SYSTEM, and may contain up to 10 characters. CATEGORY CODES are unique within the CLASS OF DELIVERY SYSTEM, but may not be unique across CLASSES OF DELIVERY SYSTEMS.

SERVICE CODE. This is the SERVICE CODE within the CATEGORY CODE referred to above, and it may contain up to 10 characters. SERVICE CODES are unique within CATEGORIES. The CATEGORY and SERVICE CODES together uniquely identify the administrative and support service within the CLASS OF DELIVERY SYSTEMS.

SERVICE NAME. This name is a unique mnemonic of up to 8 characters in length and will be used as a variable name by the computer program. The name must begin with an alphabetic character, and the remaining characters may be alphabetic or numeric characters or underscores. This name will be used to identify input and output items of data (e.g., the enrollment, size, cost and quantity information) associated with this program and created by the RCM computer program. The SERVICE NAME uniquely identifies the service and should bear a one to one correspondence with the combined CATEGORY and SERVICE CODE. For example, either the name "ELEM_SCH" or "01.01" uniquely identifies "Elementary School--General Administration."

2.2. RECORD TYPE = 2: SERVICE UNIT SIZE

Record Type 2 is used to fill in information about the size parameters for administrative and support services. There are five items to be recorded.

UNITS OF MEASURE. The user should record the units in which service size is to be measured. The most common unit of measure for administration and support services is numbers of pupils. The codes for UNITS OF MEASURE FOR PROGRAM SIZE are designated at the bottom of the RCM WORKSHEETS for easy reference. The code for number of pupils is '1'. If no code for units of measure is recorded, the computer program assigns a default value of '1'.

Alternative measures of administrative unit size are allowed by the model including FTE teachers, student membership, total FTE professional personnel, and total square footage. How does one measure the size of an administrative unit? Each level of administration (school, program and district) has its own set of

alternatives. However, the major criteria for selecting a size measure should be based on what underlies the generation of the need for the particular kind of administrative and support services and how decision makers think best about unit size. Is it the existence of students or the employment of teaching or other professional personnel that generates the need for the services of administrative and support staff? The answer to this question may be neither simple nor straightforward. We need to designate some basis for conceptualizing the size of an administrative unit that will provide a benchmark for the specification of resource requirements. This issue must be addressed for each level of administrative service as well as each specific type of service (e.g., type of school or category of programs).

SIZE GROUP 1 THROUGH 4. Having selected a UNIT OF MEASURE, the user may now select the actual size levels to be used as benchmarks for the analysis of administrative and support costs. The size groups selected should reflect the range of possible sizes relevant for each type of service unit within the sample schools or district(s). Unlike Worksheet A-1, the administrative and support service worksheets do not involve the specification of classes, courses or caseloads per se. The size specifications are done in terms of the full unit of operation, whether it be a school, a program category, or a some other administrative or support division for the district. These size specifications will differ to some degree depending on whether the RCM is being used to support the EPBM or the SFPM.

(a) LOCAL APPLICATION SUPPORTING THE EPBM. If the RCM is being used to support the EPBM, then only a single district is involved and this range of size will tend to be relatively small. For example, a range of size of plus or minus 10% might be more than sufficient to represent the possible ranges of change in district size. The largest size level selected should ALWAYS be assigned to SIZE GROUP 4. Even if only one size level is selected, it should be assigned to SIZE GROUP 4 with SIZE GROUPS 1 through 3 remaining blank. The remaining size levels selected should be assigned in descending order (from largest to smallest) to SIZE GROUPS 3, 2 and 1. It is NOT NECESSARY TO SPECIFY ALL SIZE GROUPS. Three is probably sufficient when the RCM is being used to support the EPBM. For example, with three size levels, SIZE GROUP 3 would be used to represent CURRENT operating levels (e.g., enrollments). SIZE GROUPS 2 and 4 would then be used to represent the size level and resource requirements under a 10% decline and 10% increase in service levels (e.g., enrollments), respectively. SIZE GROUP 1 would simply be left blank (unused).

A district desiring greater detail in analyzing alternative scenarios for the future might consider using all four SIZE GROUPS with different specifications in areas of GROWTH versus areas of DECLINE. If the district is undergoing GROWTH within a particular program area or administrative or support service, then the present size level of the district (for each service) might be assigned to SIZE GROUP 2, while one size 10% below current

levels would be assigned to SIZE GROUP 1 and two size levels of 10% and 20% greater than current levels would be assigned to SIZE GROUPS 3 and 4, respectively. If the district is undergoing DECLINE within a particular program area, then the present size level of the district (for each service) might be assigned to SIZE GROUP 3, while one size 10% above current levels would be assigned to SIZE GROUP 4 and two size levels of 10% and 20% below current levels would be assigned to SIZE GROUPS 2 and 1, respectively.

(b) STATE APPLICATION SUPPORTING THE SFPM. If the RCM is being used to support the SFPM, then a wider range of size levels should be specified to reflect the considerable diversity that might characterize the state. Indeed, as suggested previously, one may specify more than four size levels by specifying a second or even third worksheet for the same service. The largest size level on the first worksheet becomes the (smallest) size group specified on the second worksheet and should have the same resource requirements associated with it (see below). Once again, the largest size group on any given worksheet must always be recorded under SIZE GROUP 4. The greater the number of sizes specified, the more accurately will the model be able to reflect the nature of the cost economies.

There are several criteria governing the selection of the size points for the different levels of administration and support services. There is, however, no objectively defined set of standards by which these size points may be determined. Consistent with the nature of the RCM, they are open to debate and discussion. The program professionals responsible for specifying the programs and services are required to review information and to make professional judgments about what is or is not appropriate given the availability of resources and the goals they wish to achieve. Some subjective considerations that they need to keep in mind in selecting these size points, however, are presented below.

(b-1) SMALLEST SIZE UNITS. The minimum or smallest size specified should be selected so that the resource requirements which are specified reflect the administrative and support burdens associated with small sized operations. It should not necessarily be the smallest possible administrative unit, but rather one at which a "reasonable" and "appropriate" set of educational services may be provided. Obviously, at a size of zero, there are no resource requirements. The difference in size and resource requirements between the minimum or small unit and zero should reflect at least to some degree the rate at which the need for additional administrative and support services are generated for the smallest schools or districts (particularly those located in remote areas where consolidation is not feasible).

(b-2) THE INTERMEDIATE SIZED UNITS. The intermediate sized units should be selected at points at which some of the economies of scale are being realized. The changes in size and resource requirements between the small and intermediate units should allow

us to assess the changes in the intensity of administrative burdens and in administrative costs in districts. The slopes of the size and resource lines between these points in fact reflect the rates at which administrative and support service needs are generated between the small and intermediate sized district. One would anticipate that at least for certain resources the rate at which additional administrative resources are generated between the small and intermediate sized units would be lower than that rate reflected between zero and the minimum or small sized unit.

(b-3) THE LARGEST SIZED UNITS. The largest sized unit should be one that has essentially captured all of the possible economies of scale. The changes in size and resource requirements between the intermediate and large sized units will be used to estimate the rate at which additional administrative and support resources are generated by all units above the intermediate size levels. Presumably, the overall rate at which additional administrative costs increase might be expected to be less than that revealed between the small and intermediate sized units. In other words, one might anticipate that if the criteria set out above for size selection have been followed, the resulting patterns of cost variation would show costs increasing at a decreasing rate as size increases.

1.3. RECORD TYPE = 3: RESOURCE REQUIREMENTS.

This Section of the RCM Worksheets A-2,3,4 is designed to record information about the resources required to operate each unit of the administrative and support service designated in record type 1. The remaining rows on RCM Worksheets A-2,3,4 are available for specifying all of the personnel and nonpersonnel resource requirements. Each row represents a different resource, and any number of resources may be specified. More than one page (worksheet) may be used if the resource requirements for a given service unit do not fit on a single page. Figures VI-4 and VI-5 illustrate the primary ways in which data on resource requirements may be entered on the Worksheet. Further illustrations of the ways in which resource requirement data may be entered are contained in Section B for Worksheet A-1.

The Worksheet contains 10 columns of data corresponding to the various resources. The content of each of these columns is discussed in detail below with examples from Figures VI-4 and VI-5.

DESCRIPTION. The first column asks for a description of the resource of up to 25 characters. Other than the 25 character limitation, the same conventions used in creating program and service descriptions apply. This description can be as specific as the 25 character limitation will allow and does not need to be identical to the description corresponding to the resource with this same object code and unit of measure recorded on the RESOURCE LIST discussed in Chapter V. This description will appear in the print out of the RCM WORKSHEETS created by the

computer program.

OBJECT CODE. The object (resource) code may be up to 10 characters in length and is used to identify the type of resource. The same object code may appear more than once among the resources listed within a given program. Notice, for example, in Figure VI-4, that the resource code 6520 appears three times and that each time it appears it has a unique description. The object code 6520 corresponds to the resource type OTHER EQUIPMENT, but it is used to record resource requirements for a very specific list of items for this program. When the WORKSHEETS are printed out for review by the user, it retains these specific descriptions so that the user may recall the source of information. The version of the WORKSHEET datasets which is saved for processing and cost analysis by the RCM computer program uses simply the resource description derived from the RESOURCE LIST (e.g., OTHER EQUIPMENT in our example above).

UNITS OF MEASURE. Resource requirements may be specified using a variety of units of measurement. The user should record in this column the units of measurement used to specify each resource. The codes for the various units of measure are displayed at the bottom of the blank worksheets for reference. These codes determine the way resource information will be processed and must be accurately recorded. No other units of measure may be used other than those designated at the bottom of the Worksheet.

Personnel resources are most often recorded in terms of FTE's (Full-Time-Equivalents) or in hours, days, weeks or months per year. The code for special service allows recording one time payments or stipends for services rendered rather than for periods of time. Although personnel resources may also be recorded as dollars per year, this measure is most commonly used for expendable or consumable supplies and materials. A second option for expendable items is quantity per year.

Measures for capital resources include startup cost or quantity. Capital resources are those items which have a useful life of 2 or more years. As in our example, this includes not only basic classroom furnishings and special equipment (e.g., computers), but also textbooks.

RESOURCE REQUIREMENTS BY SIZE CLASS: GROUPS 1 THROUGH 4. These three columns correspond directly to the service size classes specified in RECORD TYPE 2. In each case, the amount of the resource entered into each cell should be the amount required to provide the service unit in the corresponding size class. Each column corresponding to one of the size groups should be filled out. Whether the amounts of a particular resource for different size levels is the same or different, each column must be completed because there are no default options, as for the A-1 worksheets, for automatically filling in columns on the A-2, 3, or 4 worksheets. The ONLY EXCEPTION is when a size level has been

skipped. If the user decides to fill out only three size groups, these must be recorded under SIZE GROUPS 2 through 4 as explained above. SIZE GROUP 1 is skipped in this instance. (Recall that the largest size group must always appear in SIZE GROUP 4 and the remaining size groups filled in beginning with the next largest in GROUP 3 and so on.) The RCM computer program will automatically fill in zeros.

UNIT COST. The amount recorded in this column should be the cost per unit of this resource. A unit of this resource is defined in terms of the UNITS OF MEASURE. For example, if the resource is in FTE, then the unit cost is the total annual FTE salary and benefits for the corresponding category of personnel. A personnel resource recorded as hours per year (units of measure=102) should have an hourly wage and benefits number recorded. Resource requirements specified in terms of dollars (i.e., 201=Dollars/year or 301=Startup Cost) need no unit cost recorded.

As discussed in Chapter V under UNIT COST on the RESOURCE LIST, UNIT COST data may be derived from any one of three sources: (a) the DELIVERY SYSTEM WORKSHEETS, (b) the PERSONNEL ASSIGNMENT FILE, and (c) the RESOURCE LIST. THE UNIT COST RECORDED ON THE RCM WORKSHEETS OVERRIDES THE VALUE OF THE UNIT COST DERIVED FROM ANY OTHER SOURCE FOR A GIVEN RESOURCE.

Resources may be recorded on a per student basis if "# of pupils" is used as the unit of measure for SERVICE UNIT SIZE. The user would simply record the number of pupils in the corresponding columns associated with the particular resource and record the uniform per student cost under UNIT COST. It should be remembered that uniform per student cost implies no economies or diseconomies of scale for the resource in question.

The amounts and/or UNIT COSTS recorded for capital resources should reflect current replacement cost. The value of the capital resources used for an administrative or support service recorded on the A-2,3,4 worksheets should be apportioned to reflect the utilization of the capital in the particular service. For example, if a computer terminal is shared half and half between the business office and the personnel office, then half the cost of the computer terminal should be recorded under this capital resource for each office or division.

FOR CAPITAL RESOURCES ONLY: YEARS OF LIFE, REPLACEMENT RATE. The next two columns are related to one another and are used exclusively for capital resources. YEARS OF LIFE and REPLACEMENT RATE may be derived from either this DELIVERY SYSTEM WORKSHEET, the RESOURCE LIST or the SIMULATION PARAMETERS. (See the discussion in Chapter V on the RESOURCE LIST.) THE NUMBERS RECORDED IN THE CELLS ON THIS WORKSHEET OVERRIDE THE VALUES DERIVED FROM ANY OTHER SOURCE. The RESOURCE LIST takes the second priority for this information and the default values are those recorded in the SIMULATION PARAMETERS (see Chapter X).

If a unique life is desired for the capital items, then it should be recorded on this worksheet. The YEARS OF LIFE represent the period of time over which the capital resources will be depreciated.

REPLACEMENT RATE reflects the proportion of the initial investment which is expended annually (i.e., not depreciated) due to loss, theft, or damage beyond repair).

Capital costs are determined exactly as described in Chapter V.

FOOTNOTES TO CHAPTER VI

<1> The number of programs that can be handled by the software package is limited by the procedure used to run the simulation. The total number of distinct categories of resources (with each being identified uniquely by its object code and units of measure) that appear on the A-1 times the total number of programs and services specified on A-1 type DELIVERY SYSTEM WORKSHEETS must be no greater than 32,767. For a more general discussion, the reader is referred to the SAS USERS GUIDE: STATISTICS, page 552.

CHAPTER VII

ENROLLMENTS AND SERVICE LEVELS

The next stage in the process of implementing the RCM involves gathering data on total enrollments and service levels for each of the programs and services specified in the DELIVERY SYSTEM WORKSHEETS. In the DELIVERY SYSTEM WORKSHEETS, the emphasis was on specifying the resource configurations for each single unit of any given program or service. This next stage focuses on gathering the information necessary to determine how many of the various kinds of delivery system units are going to be offered and the total levels of resources required to operate any given district or school.

A. DETERMINATION OF NUMBERS OF PROGRAM AND SERVICE UNITS.

The total levels of resources required to operate a program or service within a district or school are ultimately determined by the total number of program or service units of a given type and the average size of each of those units in terms of enrollment or service levels. The programs and services listed among the A-1 and A-2 worksheets are generally thought of as being offered at the school level. For example, Self contained third grade classes and basic 10th grade English are offered at individual school sites. In addition, even though some programs may be offered by itinerant teachers throughout the district, the service is still offered at the level of the school site. Thus, for programs and services at the A-1 and A-2 level, the first step to determination of total resource requirements is to count or calculate the number of program or service units that will be required, e.g., the number of self contained third grade classrooms, the number of 10th grade English courses and the number FTE itinerant teachers at the school and/or district level. Having done this, the average size of each unit may be determined by dividing the total enrollments (or service levels) by the total number of units. The computer program then determines the average allocations of resources to a particular program or service by using the specifications on the DELIVERY SYSTEM WORKSHEETS.

For the A-3 and A-4 worksheets, the delivery system specifications reflect single service units. No calculation of units is necessary. However, enrollments or service levels must be recorded for each of these worksheets at the district level. The RCM computer program determines total resource requirements entirely on the basis of the district level enrollments (or service levels) combined with information derived from the service specifications reflected on the appropriate DELIVERY SYSTEM WORKSHEETS.

There are two alternative ways in which the RCM determines the number of program or service units.

1. The first way is to use enrollments or other measures of service levels which are then used by the program to CALCULATE the number of units of the various types of delivery systems.

2. The second way is to count the ACTUAL NUMBER of delivery system units directly.

The data necessary for either approach are gathered in a parallel fashion with a single set of ENROLLMENT AND SERVICE LEVEL WORKSHEETS. The user may decide how the numbers of program and service units are to be determined by setting the simulation parameter ACTUNITS to the appropriate value. If ACTUNITS is set to 0, then enrollments or other service level measures (e.g., student credit hours) are used to compute the number of program units. If ACTUNITS is set to 1, then the computer program searches for data from the ENROLLMENT AND SERVICE LEVEL WORKSHEETS on the actual number of program or service units. If positive values of the actual units are located for the observation, then they are used. If the actual units is not recorded or if they are set to zero, then the program uses the enrollment or service level data to compute units. Thus, enrollment data becomes the determiner of last resort for units if ACTUNITS is set to 1.

B. PROCEDURES FOR GATHERING ENROLLMENT AND SERVICE LEVEL DATA.

The procedures for creating the enrollment and service level database consist of 3 steps.

(1) CREATE THE ENROLLMENT AND SERVICE LEVEL WORKSHEETS. First, having created the list of programs and services as described in Chapter IV, one can create the ENROLLMENT AND SERVICE LEVEL WORKSHEETS by running one of the RCM UTILITY programs: RCM852(ENRWS). The program categories and the program and service descriptions within each program category may be entered into the computer before the actual specifications are completed. (See the discussion in Chapter V on entering the header records for programs and program categories for the DELIVERY SYSTEM WORKSHEETS.) These header records are used by one of the UTILITY PROGRAMS within the RCM to create the ENROLLMENT AND SERVICE LEVEL WORKSHEETS which are designed to facilitate the data gathering process. Enrollment and service level data are gathered for each individual program and service included among the designated DELIVERY SYSTEMS.

(2) GATHER SCHOOL OR DISTRICT LEVEL DATA. Second, these worksheets should be sent out to each of the schools and/or districts to be included in the analysis. Data may be gathered by district or by school. When the RCM is used to support the EPBM, data should be gathered on a school by school basis in

order to allow for development of school level cost and budget data. Either school or district level may be appropriate when the RCM is used to support the SFPM or to do very aggregative kinds of cost analyses. The greater the diversity of the population of schools and districts being examined and the greater the precision desired for the cost analysis, the greater the benefits from carrying out the data collection on a school by school basis.

Some programs or services are offered and coordinated district wide by itinerant teachers, although the services themselves are actually provided at individual school sites. Speech therapy and other classes for special education or limited English proficient students represent the classic examples of this kind of program. In this case, enrollment may be counted in one of two ways. Perhaps the most straightforward approach is to simply count the enrollments for these programs at the school site at which the services are actually provided. One difficulty with this approach is that often these classes are operated and coordinated independently of the school in which they are provided. As a consequence, the local school administration may not always be aware of enrollments in these services and attendance or enrollment records may not be kept at the local school level, but rather at the district level where the services are coordinated. A second way of assigning enrollments in this case is to create an artificial school location for the analysis. This school location might be identified as "DISTRICT WIDE PROGRAMS" and enrollments or services levels could be associated with this artificial school location. This approach might also facilitate program specification making travel requirements more easily associated with the program as a whole rather than trying to apportion it among students or service levels.

In addition to the preprinted list of programs on services, blank lines are also provided on the ENROLLMENT AND SERVICE LEVEL WORKSHEETS in order to allow local schools or districts to add descriptions and enrollments/service levels for programs that do not appear to be included on the preprinted list. This procedure has two advantages. One is to act as a check for those specifying the programs and services. The programs and services added by those filling out the ENROLLMENT AND SERVICE LEVEL WORKSHEETS may have been inadvertently missed by those developing the original list. They will therefore have the opportunity to modify the initial list. A second advantage is that it allows those individuals who are doing the central processing of data to reassign where necessary the enrollments and service levels to the appropriate programs.

(3) CREATE THE ENROLLMENT FILE. Third, having gathered these enrollment and service level data, one may run the RCM UTILITY program RCM852(CRENRFI) to create the initial enrollment and service level file. As in the case of the UTILITY program RCM852(ENRWS), this program reads the header records from the DELIVERY SYSTEM WORKSHEET files and creates a base dataset which

contains a list of all of the programs and services for which enrollment and service level data should be recorded. This dataset is written to DISTRAW(ENRFILE). The format of the file is exactly the same as that of the final enrollment and service level file DISTRAW(ENRINDX). Enrollment and service level data are then entered by modifying the appropriate lines and columns of the base dataset DISTRAW(ENRFILE). Once this is done for each school and/or district in the sample, these files may be concatenated into a single file and saved in DISTRAW(ENRINDX). The file DISTRAW(ENRINDX) is then used by the RCM simulation program to carry out the cost analysis.

C. INSTRUCTIONS FOR FILLING OUT THE ENROLLMENT AND SERVICE LEVEL WORKSHEETS B-1, 2, 3 and 4.

Sample preprinted copies of the ENROLLMENT AND SERVICE LEVEL WORKSHEETS B-1, 2, 3 and 4 are displayed in Figures VII-1,2,3 and 4, respectively. Worksheets B-1 through 4 reflect programs and services derived from the DELIVERY SYSTEM WORKSHEETS A-1, 2, 3 and 4, respectively. Each Figure displays a sample set of programs from the corresponding worksheet. Each of the elements contained in these worksheets is discussed below.

CONTACT PERSON. The individual collecting the worksheet should fill in his/her name or initials in this space. This facilitates data verification at later stages of the process.

PHONE. The contact person should also provide a phone number to simplify communication.

LOCATION. The information requested under this heading includes the names of the COUNTY, DISTRICT and SCHOOL along with the respective identification codes (ID CODE) for each. These names and codes identify fully the unit of observation for which the enrollment data are being recorded. The SCHOOL and SCHOOL ID CODE may be thought of more generally as a location code in instances where program enrollment data are not actually gathered from a school site. With this more general interpretation, the CENTRAL DISTRICT OFFICE or DISTRICT WIDE PROGRAMS may be assigned unique SCHOOL (location) names and ID CODES for purposes of recording enrollment data. The ID CODES recorded in these locations must conform to the following conventions:

- They must be NUMERIC codes. (No alphabetic characters are permitted among the COUNTY, DISTRICT or SCHOOL ID codes. This NUMERIC requirement differs from the Category and Program/service codes which are permitted to contain alphabetic characters.)

- All ID CODES must be POSITIVE NUMBERS greater than zero

except in the following circumstances:

- The observation corresponding to the DISTRICT TOTALS (i.e., total enrollments and service levels for all programs and services across all schools or locations) is always identified by positive values for the COUNTY and DISTRICT ID CODES combined with a SCHOOL ID CODE = 0.

- An observation corresponding to the COUNTY TOTALS is always identified by a positive value for the COUNTY ID CODE combined with a DISTRICT ID CODE = 0 and a SCHOOL ID CODE = 0.

- An observation corresponding to STATE WIDE TOTALS is always identified by 0 values for the respective ID CODES.

OBS TYPE CODE. The code for the type of observation should be recorded in this space. The coding structure is left to the discretion of the user, although it must be numeric. It may contain up to 10 digits. The purpose of the observation type code is to allow the user to identify categories of observations such as all elementary schools, middles schools, high schools or types of districts included in the sample. It is an OPTIONAL feature and this item need not be filled in if the user does not feel it is necessary.

DISTRICT TOTALS need not be recorded in advance of running the simulation program unless it is desired for some other purpose. An observation including district totals is automatically created by the RDA simulation program as long as the SIMULATION PARAMETER label SUM_DIST is set to 1 (See Chapter 9 on the SIMULATION PARAMETERS). Enrollment and service level data for the ϕ=1 and ϕ=2 programs and services should be recorded and assigned to a CENTRAL DISTRICT OFFICE location with a positive SCHOOL (location) ID CODE. NO other enrollment or service level data should be assigned to the same observation (i.e., SCHOOL ID CODE) where the ϕ=1 and ϕ=2 enrollment data are recorded. (NO ENROLLMENT OR SERVICE LEVEL DATA FOR PROGRAMS AND SERVICES APPEARING ON THE ϕ=1 OR ϕ=2 DELIVERY SYSTEM WORKSHEETS SHOULD APPEAR IN THE SAME OBSERVATION W/TH THE CENTRAL DISTRICT OFFICE SERVICES DERIVED FROM THE ϕ=1 AND ϕ=2 DELIVERY SYSTEM WORKSHEETS.)

Other artificial district level observations (SCHOOL ID CODES or locations) for district wide programs may be created and enrollments and service levels assigned appropriately for applicable ϕ=1 and ϕ=2 programs and services. Positive values of the SCHOOL ID CODES should be assigned to these kinds of observations. However, the ϕ=1 and ϕ=2 enrollments must not

FIGURE XXX-X: SAMPLE COPY

Contact Website: _____ Phone: ( ) - Page XXX

Petition # or Enrollment: _____

NCDB Worksheet 6-1
ENROLLMENTS AND SERVICES LEVEL WORKSHEETS FOR VOCATIONAL PROGRAMS AND RELATED SERVICES (For NCDB Worksheet 6-1)

Institution Name: _____ Address: _____ School: _____

Campus ID Code: _____ Address ID Code: _____ School ID Code: _____ OPE 6-Digit Code: _____

Institution Category: Reporting School

Program Description	Category Code	Program or Service Code	Program Service Eligibility	Units of Measure *	Budget Enr. or Service Levels FY__/FY__	Budget Unit/$ Amounts FY__/FY__
Skill-Connected Eng./Lang. Arts 6	XX-X-XXX	6.XXX	ELIGIBLE	PUPILS	____/____	____/____
Skill-Cont. English, Accelerated 6	XX-X-XXX	6.XXX	ELIGIBLE	PUPILS	____/____	____/____
Basic English 7	XX-X-XXX	6.XXX	ELIGIBLE	PUPILS	____/____	____/____
Accelerated English 7	XX-X-XXX	6.XXX	ELIGIBLE	PUPILS	____/____	____/____
General Eng./Lang. Arts 7	XX-X-XXX	6.XXX	EL_6.XXX	PUPILS	____/____	____/____
Skill-Connected Eng./Lang.& Rdgs	XX-X-XXX	6.XXX	ELIGIBLE	PUPILS	____/____	____/____
Basic English 8	XX-X-XXX	6.XXX	ELIGIBLE	PUPILS	____/____	____/____
Accelerated English 8	XX-X-XXX	6.XXX	ELIGIBLE	PUPILS	____/____	____/____
General Eng./Lang. Arts 8	XX-X-XXX	6.XXX	EL_6.XXX	PUPILS	____/____	____/____
Skill-Connected Eng./Lang.& Rdgs	XX-X-XXX	6.XXX	ELIGIBLE	PUPILS	____/____	____/____
Algebra	XX-X-XXX	6XXX	ELIG	PUPILS	____/____	____/____
Pre-Algebra 7-8	XX-X-XXX	6XXX	ELIGIBLE	PUPILS	____/____	____/____
Basic Math 6	XX-X-XXX	6XXX	ELIGIBLE	PUPILS	____/____	____/____
Accelerated Math 6	XX-X-XXX	6XX	ELIGIBLE	PUPILS	____/____	____/____

_____

UNITS OF MEASURE FOR PROGRAMS 6XXX

- Hrs of Eligible
- Hrs/Wk Teachers
- Hrs/Wk Class Here
- Hrs/Wk Chair Here
- Bilingual ESL Here
- Hrs of Schools
- Type of Bldg
- Enrol. by Courses
- Enrol. Sem Courses

- Hrs of Days/Wk
- Hrs Wk Students
- Hrs of Rooms
- Hrs of Counselg
- Hrs Pupil Hrs/Day

- Hrs of Days/Day
- Hrs/Wk Pupils
- Hrs Unserved Pupils
- Hrs of Sub Engls

Page XX-X

CONTACT PERSON _____ PHONE: ( ) _____-_____

INITIALS OF RECORDER _____

BCM Worksheet B - 2
ENROLLMENTS AND SERVICE LEVELS FOR
SCHOOL ADMINISTRATION AND SUPPORT SERVICES
(For BCM Worksheet A - 2)

LOCATION: COUNTY _____ DISTRICT: _____ SCHOOL NAME: _____

COUNTY ID CODE: _____ DISTRICT ID CODE: _____ SCHOOL ID CODE: _____ OBS TYPE CODE: _____

Service Description	Category Code	Service Code	Service Mnemonic	Units of Meas.*	Total Enrollment or Service Level	Total No. of School Units (OPTIONAL)
Elementary School--Genl Admin	01-3-690		ELEM_SCH	PUPILS		
Elementary Library	01-3-690	470	ELEM_LIB	PUPILS		
Middle School--Genl Admin	02-3-690		MID_SCH	PUPILS		
Middle School - Library	02-3-690	470	MS_LIB	PUPILS		
Middle School Counselling Service	02-3-690	620	MS_COUN			
Middle Schools Supplemental/a/Kitchen	02-3-690	840	MS_KITCHN	PUPILS		
Food Service: Production - K-8	02-3-840		FOOD_ELE	MEALS		
High School - Library	03-5-690	470	HS_LIB	PUPILS		
High School--Genl Admin--AHS	03-5-690	690-22	HS_AHS	PUPILS		
High School--Genl Admin--EHS	03-5-690	690-23	HIGH_SCH	PUPILS		
Food Service - Production - 9-12	03-5-840		FOOD_HS	MEALS		
Adult	09-7-693		ADULT	PUPILS		
Adult School - Ed. Srv. Resources	09-7-693	635	ADULTEDS	PUPILS		
Extend High	10-5-690		CONTHIGH	PUPILS		

CONTACT PERSON: _____ PHONE: ( ) _____ - _____

INITIALS OF RECORDER: _____

RCM Worksheet B - 3
ENROLLMENTS AND SERVICE LEVELS FOR
PROGRAM ADMINISTRATION AND SUPPORT SERVICES
(For RCM Worksheet A - 3)

LOCATION: COUNTY: _____ DISTRICT: _____ SCHOOL NAME: _____

COUNTY ID CODE: _____ DISTRICT ID CODE: _____ SCHOOL ID CODE: _____ EMS TYPE CODE: _____

Service Description	Category Code	Service Code	Service Mnemonic	Units of Meas.*	Total Enrollment or Service Level	Comments
Child Development Center	04-1-552		CDC	PUPILS		
Child Develop. Cntr--Food Service	04-1-552	1	CDC_FOOD	PUPILS		
Special Ed. General	05-2-300		SPEC_ED	PUPILS		
Sp Ed. Resource Room	05-2-300	1	SEDESRM	PUPILS		
GATE-Ed. Srv. Resources	06-3-543	1	GATE_EDS	PUPILS		
LEP (Limited English Proficient)	07-0-511		LEP	PUPILS		
MDP	08-6-104		MDP	PUPILS		
Joint Training Partnership Act	08-6-104	01	JTPA	PUPILS		
Driver Training	12-5-126		DRV_TRNG	PUPILS		
Vocational Education	13-5-509		VOC_ED	PUPILS		
School Improvement Plan (SIP)	15-3-560		SIP	SCHOOLS		
Chapter 1	16-3-526		CHAPT1	PUPILS		

CONTACT PERSON:_____ PHONE:( ) _____-_____

INITIALS OF RECORDER:_____

RCM Worksheet B - 4
ENROLLMENTS AND SERVICE LEVELS FOR
DISTRICT ADMINISTRATION AND SUPPORT SERVICES
(For RCM Worksheet A - 4)

LOCATION: COUNTY:_____ DISTRICT:_____ SCHOOL NAME: _____

COUNTY ID CODE: _____ DISTRICT ID CODE: _____ SCHOOL ID CODE: _____ OBS TYPE CODE: _____

Service Description	Category Code	Service Code	Service Mnemonic	Units of Meas.*	Total Enrollment or Service Level	Comments:
Gen. District Admin.	01-9-710		GEN_ADM	PUPILS		
Community Service Program	01-9-810		COMMNTY	PUPILS		
Business/Fiscal- Business Services	02-9-725		BF_BUSSV	PUPILS		
Business/Fiscal - District Wide	02-9-725	726	BF_DIST	PUPILS		
Personnel	03-9-719		PERSNLL	PUPILS		
Educational Services	04-9-425		EDUC_SRV	PUPILS		
P.E./ Ath / Health / Safety	04-9-425	163	EDSHPES	PUPILS		
Ed.Serv--Cur.Dev./Inser.	04-9-425	440	ESCURINS	PUPILS		
Educ. Ser. T.R.C.	04-9-425	471-01	EDS_TRC	PUPILS		
Educ. Ser.- Testing	04-9-425	471-02	ED_TEST	PUPILS		
Educ. Ser. Duplicating	04-9-425	733	EDS_COPY	PUPILS		
Chapter II	04-9-526	526-02	EDS_CHPT	PUPILS		
Pupil Personnel Services	05-9-692		PUPILPER	PUPILS		
Pupil Pers--Psych. Servs	05-9-692	630	PP_PSYCH	PUPILS		
Pupil Pers--Health Srvs	05-9-692	640	PPHEALTH	PUPILS		

*UNITS OF MEASURE FOR SERVICE LEVELS:

1=# of Pupils	11=# of Mtgs/Yr	21=# of Meals/Day
2=FTE Teachers	12=# Wrk Stations	22=FTE Pupils
3=FTE Cert Pers	13=# of Babies	25=# Identfd Pupils
4=FTE Clsf Pers	14=# of Credits	45=# of Sch Dist
5=Total FTE Pers	15=# Pupil Hrs/Day	
6=# of Schools		
7=Sq Ft Bldg		
8=Enr,Yr Course		
9=Enr,Sem Course		

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appear among these types of observations which include A-1 and A-2 enrollments.

In general there is no need to record COUNTY and/or STATE TOTALS in the enrollment and service level data. These types of observations are most likely to be relevant when the RCM is being used to support a state or national level cost analysis. Nevertheless, these conventions for identifying COUNTY and STATE level observations apply throughout the datasets created for and by the RCM simulation program.

PROGRAM CATEGORY. This element appears only on the ENROLLMENT AND SERVICE LEVEL WORKSHEET corresponding to the A-1 DELIVERY SYSTEMS. The description of the program category derived from the DELIVERY SYSTEM WORKSHEETS is preprinted in this space.

CATEGORY CODE. The CATEGORY CODE for the program or service is preprinted in this column. This code is derived from the header record (RECORD TYPE 1) on the DELIVERY SYSTEM WORKSHEETS.

PROGRAM/SERVICE CODE. The individual PROGRAM/SERVICE CODE is preprinted in this column. This code is derived from the header record (RECORD TYPE 1) on the DELIVERY SYSTEM WORKSHEETS. The program or service is uniquely identified by the combined CATEGORY and PROGRAM/SERVICE CODES.

PROGRAM/SERVICE MNEMONIC. The name (or computer mnemonic) for the program or service is preprinted in this column. This item is also derived from the header record for the DELIVERY SYSTEM WORKSHEETS. The name uniquely identifies the program or service and should be in a one to one correspondence with the combined CATEGORY and PROGRAM/SERVICE CODES.

UNITS OF MEASUREMENT. This column is for recording the code corresponding to the appropriate units of measurement in which program service levels are to be recorded in the next column. The most common unit of measure is '1' for '# of pupils.' The codes and definitions for the units of measure are indicated at the bottom of each page of the ENROLLMENT AND SERVICE LEVEL WORKSHEETS. The purpose of this code is simply to serve as a reminder for the individual coding or modifying the information as to the appropriate units in which the size of the program is being recorded. THIS CODE SHOULD BE IDENTICAL TO THE CODE FOR UNITS OF MEASURE RECORDED ON THE CORRESPONDING DELIVERY SYSTEM WORKSHEET.

TOTAL ENROLLMENTS/SERVICE LEVELS. The total annual enrollments or service levels should be recorded in these two columns. These enrollments most often are simply head counts of students being served in each program or service. For the vast majority of programs and services, a head count is sufficient information to reflect service levels. These head counts may be annual average daily attendance or membership. In addition, service levels may also be recorded in forms such as total student hours, total credit hours, total FTE pupils, numbers of work

stations, numbers of meetings, or numbers of meals. The most important factor to remember in recording these enrollment and service levels is that the units of measurement used to record these data must coincide with the units of measurement code recorded on the DELIVERY SYSTEM WORKSHEET. These units of measure will largely determine the way resources are allocated to these programs and will affect greatly the cost estimates derived from the RCM computer simulation.

Notice that on ENROLLMENT WORKSHEET B-1, there is the provision to record either annual enrollments and service levels or first and second semester enrollments. The user has two options for recording enrollment and service level information.

1-Record first and second semester enrollments or service levels. For analysis, these first/second semester numbers are added together unless the UNIT OF MEASURE CODE is set equal to '8'. If UNIT OF MEASURE=8, then the two numbers are averaged to determine an annual average enrollments or service levels per semester.

2-Record the annual enrollments or service levels in the first half of the column (to the left of the slash) and leave the second half blank.

For programs that are specified as full year programs, enrollments and service levels may be recorded either as the AVERAGE full year enrollments in the first half of the column only or each semesters enrollments and service levels may be recorded in the first and second half with a UNIT OF MEASURE CODE set equal to 8. For all other programs, enrollment and service level data may be recorded either by the year (to the left of the slash) or by the semester (to the left and right of the slash).

For example, an Algebra course might be specified as a full year course including Algebra 1 and 2. The teacher time allocation for such a program would be set at 1/5 or 1/6 FTE, i.e., this implies a course load of 5 or 6 classes on a full year basis. If first semester course enrollment is expected to be 60 students and second semester enrollment is expected to be 58 students, then the user may either record the average enrollments of 59 [=(60+58)/2] to the left of the slash (any UNITS OF MEASURE CODE may be used in this case) or may record 60 / 58 in the designated columns with a UNITS OF MEASURE CODE=8. The RCM program will do the averaging as long as the UNITS OF MEASURE CODE is set at 8.

If, on the other hand, Algebra 1 and 2 is specified as a semester course, then the total program enrollment is the sum of the enrollment in each semester. In the example, enrollment for Algebra 1 and 2 specified as a semester level course would be 118 students (=60+58). The teacher time allocation for such a program would likely be set at 1/10 to 1/12 of an FTE. This

implies a course load of 10 to 12 classes on an annual basis. In this case the enrollments would be recorded as 60 / 58 with a UNITS OF MEASURE CODE = 9 (or 1).

It is possible to record a given program or service on more than a single line in the ENROLLMENT AND SERVICE LEVEL WORKSHEETS. Blank worksheets are also provided for this purpose in the program that creates these worksheets. As an example of how this might be used, let us assume that enrollments are recorded for each semester separately for semester level courses. Two lines of data would be recorded, one line for each semester, but the two programs would be identified with the same PROGRAM DESCRIPTION, CATEGORY CODE, PROG/SERV CODE and PROG/SERV MNEMONIC. The RCM computer program is designed to automatically aggregate enrollments across records that are identified as the same program or service (i.e., for which the CATEGORY and PROG/SERV CODES are identical).

In addition to the program and service level enrollments, the user should record the total enrollments for each observation included in the ENROLLMENT AND SERVICE LEVEL file. If the school is the basic unit of observation for the planned analysis, one line of data should be entered for each school designating the total enrollments for that observation. The data for total enrollments should reflect an unduplicated count of enrollments both within and across schools. Each student within a district should be COUNTED ONCE and ONLY ONCE among the total enrollments recorded for each school. The sum of the total enrollment figures for schools located within a given district should equal the total unduplicated enrollment count for the district. Thus, a student who is attending more than one school unit should be counted within only one of those schools for the purposes of recording total enrollments. (See the discussion of data entry in Appendix A containing the file formats for the ENROLLMENT AND SERVICE LEVEL WORKSHEET for how the data on total enrollment is to be recorded.)

TOTAL UNITS OFFERED (OPTIONAL). An optional feature of the model allows the user to record the actual total number of units of the program or service offered during the year. This column need not be completed. If it is completed and the user desires to make the information operational within the RCM computer program, the SIMULATION PARAMETERS DOUNIT_I (for programs and services specified on DELIVERY SYSTEM WORKSHEETS A-1) or DOUNIT_S (for services specified on DELIVERY SYSTEM WORKSHEETS A-2) must be set to 1. DOUNIT_I=1 allows the user to use actual counts of instructional programs and related services to calculate the corresponding costs. DOUNIT_S=1 allows the user to use th actual count of school units to calculate school administration and support service costs. Where UNITS data are not recorded for some reason, enrollment and service level data are always used as a backup by the RCM to calculate costs. Setting the parameters DOUNIT_I or DOUNIT_S to one merely operationalizes the possibility of using actual count data if available.

The options discussed above for recording enrollment and service level data for full year versus semester courses or programs apply in the same fashion to recording data on program and service units.

Total units for programs or services specified as a case load would be determined according to the FTE staff assigned to the program. For example, suppose the district employed 2.5 FTE speech therapists assigned to a program label 'Itinerant Speech Therapy Services.' Such a program would generally be specified on the basis of a case load for a full-time speech therapist. Since case loads can be funded on a fractional basis, the number of units of such a program would be equal to the total FTE staff assigned to that program or 2.5 units in the example of the speech therapist.

CHAPTER VIII

SALARY AND BENEFIT SCHEDULES AND THE EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE

In the previous Chapters, there have been two places in which resource cost data could have been entered. The first was in the RESOURCE LIST. The resource list contains a generic listing of resources. To the extent that unit prices or costs may be assigned generically, then they may be recorded in the RESOURCE LIST. If, on the other hand, the unit resource prices are unique to a given resource within a given program or collection of programs, then unit prices or costs may be recorded on the DELIVERY SYSTEM WORKSHEETS within the appropriate program.

There is yet a third option available within the RCM computer model for recording data on personnel: THE EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FORM. This option is likely to be of most value when the RCM is being used to support the EPBM, but may also be of value in specific circumstances for state or national level analysis. The EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION file (sometimes referred to simply as the ASSIGNMENT FILE) is designed to organize basic payroll and assignment information to calculate the costs of school personnel. The format of the file could well serve as the basis for a payroll information file as well as a personnel job assignment file that could well serve many functions for organizing a local districts information about its employees.

For the purposes of the RCM, the assignment file provides a tool for computing average personnel costs at a number of levels of aggregation depending on the needs of the district. Average compensation can be determined by object code, by object code and program or service category, or by program or service. The file is also designed to facilitate changes in the salary and benefit information for individual school personnel. This capability would allow the user of the RCM to simulate relatively easily the effects of overall changes in salary and benefit schedules on district and program level budgets. Changes in salary schedules could be accomplished by going into a separate salary schedule file and changing the appropriate salary scales. These new salaries would automatically be assigned to each individual using schedule, step and class codes that identify the appropriate cell in the salary schedule for each employee. Benefit data are handled in a way similar to salary and salary schedule data.

Each of the three data files used to organize personnel salary and benefit information are described below. The SALARY SCHEDULE and BENEFITS FILES are introduced first. The ASSIGNMENT FILE is then introduced and the relationship between these three files is described.

4. SALARY SCHEDULE FILE.

The SALARY SCHEDULE FILE basically contains salary cost information along with identifying codes that allow these data to be matched to individual employee information in the ED/EMPDAT FILE. This file should contain all of the employee salary schedules used by the district in the determination of salaries of individual employees. One of the major issues addressed in organizing this file involves the compatibility between the units of measurement use to record resource quantities on the DEC/VEDA SYSTEM WORKSHEETS and the units of measurement used in recording salary information. If teachers salary schedules are recorded as annual salaries for full time teachers, then teacher costs are most easily determined when teacher time allocations to programs and services is recorded in FTE (i.e., units of measurement) on the DEC/VEDA SYSTEM WORKSHEETS. If salary schedules for custodial, secretarial and other classified school personnel are recorded as monthly salaries, then these personnel costs are most easily determined when their time allocations to programs and services are recorded as total months per year (i.e., units of measure = 10). On the DEC/VEDA SYSTEM WORKSHEETS. If the units of measurement for pay rates recorded on salary schedules are not consistent with the units of measurement used in recording resource quantities on the DEC/VEDA SYSTEM WORKSHEETS, then there is some information on the ED/EMPDAT FILE (MONTH FIELD) that in some cases may help to translate the pay rate information into an appropriate form for costing out these resources.

A sample copy of SCR worksheet 3, SALARY SCHEDULE INFORMATION, is displayed in Figure VIII-14. Each of the five elements to be recorded in the salary schedule file are described below.

SALARY SCHEDULE FOR. Enter a brief description of the class of employee covered by the salary schedule to be entered on the worksheet. At least one of these SCR worksheets should be completed for each salary schedule used by the district.

SCHEDULE CODE. In this field, a code designating the salary schedule should be entered. The code may be up to five characters in length and may contain alphabetic, numeric or other special characters including periods (.), commas (,), dashes (-), underscores (_), and slashes (/) if desired. The schedule code is left to the discretion of the user.

FIGURE 6223-A: SAMPLE CODE

RUN WORKSHEET 3

SALARY SCHEDULE INFORMATION

CONTRACT PERIOD: _____ PAGE: _____

SALARY SCHEDULE FOR: Teachers (Class of employee covered) SCHEDULE CODE: A PAY UNIT CODE*: A

Enter STEP CODES at the beginning of each row and the CLASS CODES at the head of each column. Then enter the PAY RATES corresponding to each STEP/CLASS CODE combination in the blank cells.

	CLASS CODES									
STEP CODE	CLASS 1: A	CLASS 2: B	CLASS 3: C	CLASS 4: D	CLASS 5:	CLASS 6:	CLASS 7:	CLASS 8:	CLASS 9:	CLASS 10:
1	18,000	18,500	19,000	19,000						
2	18,500	19,000	19,500	19,500						
3	19,000	19,500	20,000	20,000						
4	19,500	20,000	20,500	20,500						
5	20,000	20,500	21,000	21,000						
6		21,000	21,500	21,500						
7		21,500	22,000	22,000						
8		22,000	22,500	22,500						
9			23,000	23,000						
10			23,500	23,500						
11			24,000	24,000						
20			29,000	29,000						

*The codes for the appropriate PAY UNITS are: Biannual pay rate, Biweekly pay rate, Daily pay rate, Hourly pay rate, Semimonthly pay rate (24pc), Weekly.

PAY UNIT CODE. The pay unit code designates the units of measurement used to record the pay rates in the salary schedule grid. The coding structure for PAY UNIT CODE is set out below along with the corresponding units of measurement codes used in recording resources on the RCM DELIVERY SYSTEM WORKSHEETS. This code structure must be used for recording this information as the RCM recognizes only these codes.

CODE FOR PAY TYPE	DESCRIPTION OF PAY PERIOD	CORRESPONDING CODE FOR UNITS OF MEASURE
A	ANNUAL PAY RATE PER FTE	101
M	MONTHLY PAY RATE	105
D	DAILY PAY RATE	103
H	HOURLY PAY RATE	102
S	SPECIAL PAY RATE	109

STEP CODE. The user should record all of the possible step codes down the rows of the salary schedule grid in the worksheet. The step code usually designates longevity in the district, although it is not essential that this code be used for this purpose. This code may be up to five characters in length and may include any of the characters permitted for the SCHEDULE CODE. Additional copies of the worksheet may be used if there is insufficient room on a single page to enter all of the possible step codes for any given salary schedule.

CLASS. The class codes are entered along the top of the salary schedule grid at the head of each column. Up to 10 class codes may be recorded for any given salary schedule. Additional copies of the worksheet may be used if 10 columns are insufficient to enter all of the possible step codes for a given salary schedule. The class code is generally used to designate a job title (e.g., principal, vice principal, program director) or an educational class (e.g., bachelor's degree, bachelor's degree plus 15 graduate hours, a master's degree, or doctorate). The code may be up to five characters in length and may include a similar array of characters as the SCHEDULE CODE.

The SCHEDULE, STEP, and CLASS CODES will be used in the ASSIGNMENT FILE to match salary schedule information to employee job assignment information.

PAY RATE. The pay rate corresponding to the SCHEDULE, STEP and CLASS codes should be recorded in the blank cells that make up the salary schedule grid. The pay rate is generally recorded as a rate of pay per unit of time and may reflect an annual salary for a full-time employee, a monthly salary for a full-time employee, a daily wage rate, an hourly wage rate or a compensation rate for special duties. These rates of pay must be recorded in terms of the units of measurement designated in the cell marked PAY UNIT CODE specified at the top of the worksheet.

B. BENEFIT SCHEDULE FILE

As in the case of the SALARY SCHEDULE FILE, the BENEFIT SCHEDULE FILE provides a quick and easy way of revising the costs of personnel benefits. This file contains only information about the costs of the alternative benefit packages available to employees along with a set of codes that are used to match these benefit costs to individual employee information in the ASSIGNMENT FILE. Figure VIII-2 displays a sample copy of the RDM worksheet 4 for recording BENEFIT PACKAGES AND CONTRIBUTION RATES.

Each of the five items in the file are described below.

BENEFIT CATEGORY CODE. The benefit category code designates the type of benefit for which information is being recorded. The coding structure is fixed according to the table below. These codes are recognized internally by the RDM and are used for processing benefit information.

BENEFIT CATEGORY CODE	DESCRIPTION
1	HEALTH AND MEDICAL INSURANCE
2	DENTAL INSURANCE
3	VISION INSURANCE
4	LIFE INSURANCE
5	DISABILITY INSURANCE
6	TAX SHELTER
7	OTHER PER CAPITA HEALTH & WELFARE BENEFITS
8	RETIREMENT
9	SOCIAL SECURITY
10	STATE UNEMPLOYMENT INSURANCE
11	WORKMAN'S COMPENSATION
12	OTHER BENEFITS ASSIGNED AS A PROPORTION OF SALARY

BENEFIT PACKAGE CODE. This code may be up to five characters in length and may contain the same array of characters permitted for the SALARY SCHEDULE CODE describe above. The code itself may be determined at the discretion of the user. The only restriction on establishing benefit package codes is that 'D' is NOT PERMITTED. (The character 'D' may be used within the code, but not as the sole descriptor.) This code is reserved for a special use on the EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FORM and is discussed below under the instructions for completing the form under BENEFIT INFORMATION.

CONTACT PERSON:_____ PHONE:_____

RCM WORKSHEET 4

BENEFIT PACKAGES AND CONTRIBUTION RATES

BENEFIT CATEGORY CODE	BENEFIT PACKAGE CODE	RATE OF DISTRICT CONTRIBUTION TO BENEFITS	TYPE CODE A=$/Employee R=Ratio to Salary	DESCRIPTION OF PACKAGE

RATE OF DISTRICT CONTRIBUTION TO BENEFITS. Benefits that are paid on a PER CAPITA basis must be recorded as MONTHLY contributions. BENEFIT CATEGORIES 1 through 7 are generally recorded on a PER CAPITA basis. e.g., $300 per month per employee. The amount recorded in this column should reflect ONLY the DISTRICT'S PORTION of the contributions. Employee contributions not included in this file.

Other benefits are paid as a proportion of salary. Again only the districts portion of the proportionate contribution should be recorded. BENEFIT CATEGORIES 8 through 12 are most commonly made as a proportions of salary. e.g., retirement contributions of 8% of salary would be recorded as 0.08.

TYPE CODE. The benefit type code should be recorded in this column. There are only two benefit type codes recognized by the RCM. These are as follows:

BEN_TYPE	DESCRIPTION
A	BENEFITS ARE RECORDED AS AN AMOUNT PER CAPITA
R	BENEFITS ARE RECORDED AS A PROPORTION OF SALARY

DESCRIPTION OF PACKAGE. This field provides space to describe the benefit package associated with the BENEFIT CODE. Up to 40 characters are permitted.

C. THE EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FORM

The EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FORM is designed to gather information about employee job assignments, salaries and benefits. The form contains five basic components: employee identification, assignment code, salary information, the work schedule and pay schedule, and benefit information. The information on this form is primarily organized to calculate the costs of school personnel according to a variety of levels of aggregation.

Each of the elements of the ASSIGNMENT FILE is outlined below as part of the instructions for filling out the form. A sample copy of the EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FORM is displayed in Figure VIII-3.

FIGURE VIII-3: SAMPLE COPY

RCM WORKSHEET 5

RCM EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FORM

EMPLOYEE IDENTIFICATION:

EMPL ID CODE	LAST NAME	FIRST NAME	M.I.

ASSIGNMENT INFORMATION:

ASGN #1:

	ASSIGNMENT CODE					SALARY INFORMATION						WORK SCHEDULE & PAY SCHEDULE					
	Sch/Loc Code	WS Code	Category Code	Service Code	Object Code	Sched	Step	Cls	Pay Type	Sched (Y/N)	Pay Rate	Asgn FTE	Total FTE	Mth/ Yr	Days/ Yr	Hrs/ Mth	No/Yr HW Cont
1																	

	BENEFIT INFORMATION FOR THIS ASSIGNMENT																							
	HEALTH		DENTAL		VISION		LIFE		DISABLTY		TAX SHLTR		OTHR HW		RETIREMNT		FICA		ST UNEMPL		WRK COMP		OTHR RATE	
	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent
2																								
	Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Rate		Ent Rate		Ent Rate		Ent Rate		Ent Rate	
3																								

ASGN #2:

	ASSIGNMENT CODE					SALARY INFORMATION						WORK SCHEDULE & PAY SCHEDULE					
	Sch/Loc Code	WS Code	Category Code	Service Code	Object Code	Sched	Step	Cls	Pay Type	Sched (Y/N)	Pay Rate	Asgn FTE	Total FTE	Mth/ Yr	Days/ Yr	Hrs/ Mth	No/Yr HW Cont
1																	

	BENEFIT INFORMATION FOR THIS ASSIGNMENT																							
	HEALTH		DENTAL		VISION		LIFE		DISABLTY		TAX SHLTR		OTHR HW		RETIREMNT		FICA		ST UNEMPL		WRK COMP		OTHR RATE	
	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent
2																								
	Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Rate		Ent Rate		Ent Rate		Ent Rate		Ent Rate	
3																								

ASGN #3:

	ASSIGNMENT CODE					SALARY INFORMATION						WORK SCHEDULE & PAY SCHEDULE					
	Sch/Loc Code	WS Code	Category Code	Service Code	Object Code	Sched	Step	Cls	Pay Type	Sched (Y/N)	Pay Rate	Asgn FTE	Total FTE	Mth/ Yr	Days/ Yr	Hrs/ Mth	No/Yr HW Cont
1																	

	BENEFIT INFORMATION FOR THIS ASSIGNMENT																							
	HEALTH		DENTAL		VISION		LIFE		DISABLTY		TAX SHLTR		OTHR HW		RETIREMNT		FICA		ST UNEMPL		WRK COMP		OTHR RATE	
	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent	Code	Ent
2																								
	Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Amt		Ent Rate		Ent Rate		Ent Rate		Ent Rate		Ent Rate	
3																								

EMPLOYEE IDENTIFICATION:

EMPL_ID_CODE: the EMPLOYEE IDENTIFICATION CODE. The code may contain up to 10 characters and may include alphabetic, numeric as well as any desired special characters.

LAST_NAME: the first 15 characters of the employee's last name.

FIRST_NAME: the first 10 characters of the employee's first name.

M.I.: the employee's middle initial

ASSIGNMENT INFORMATION BLOCK:

Employees may have any number of job assignments. There is space for as many as three assignments on any single FORM, but additional forms may be filled out for each employee as necessary to describe his/her job assignments. To some degree the number of assignments for an individual will depend on how detailed the assignment codes will be. If the district decided that assignments would be defined by job titles alone, then the object code would probably be sufficient to describe an assignment and each individual would more than likely have only a single assignment.

At the other extreme each individual program or service with which an individual was associated could be considered an assignment in which case some individuals may have as many as four or five assignments. In this instance the actual total number of assignments will depend on the level of detail employed by the district to delineate the programs and services. A high school teacher assigned to provide two sections of Algebra 1, one section of Geometry, and one of Trigonometry might be regarded to have three assignments. (The two sections of Algebra 1 are regarded as a single assignment since it involves the same program twice.)

There are four sub-components in the ASSIGNMENT BLOCK: the assignment code, salary information, work schedule and pay schedule, and benefit information. All assignment information code should be filled in as completely as desired for each assignment.

Each of the elements of the assignment information block is described in more detail below.

ASSIGNMENT CODE:

The assignment code consists of five components:

- Sch/Loc Code: the school or location code for the assignment. This code structure should follow

that used in identifying location codes for the enrollment data discussed in the previous Chapter.

- WS Code: the RCM Worksheet or CLASS OF DELIVERY SYSTEM (See possible codes below)
- Category Code: program or service category code from the corresponding RCM Worksheet.
- Service Code: the program or service code from the corresponding RCM Worksheet
- Object Code: the object code corresponding to the relevant job title for the individual.

Each of these codes correspond to information derived from the RCM DELIVERY SYSTEM WORKSHEETS.

The WS Code (Worksheet Code) designates the CLASS OF DELIVERY SYSTEM to which this assignment belongs. The possible codes correspond to the RCM DELIVERY SYSTEM WORKSHEET identifiers and are as follows:

WS Code	Description of corresponding RCM Worksheet
1	A-1: Instructional Programs and Related Services
2	A-2: School Administration and Support Services
3	A-3: Program Administration and Support Services
4	A-4: District Administration and Support Services

SALARY INFORMATION:

The salary information block includes six items. The first three items are used to match this assignment for this individual employee to the appropriate SALARY SCHEDULE described in Section A of this Chapter.

- Sched: the Salary Schedule Code
- Step: the Step Code on the Salary Schedule
- Cls: the Class Code on the Salary Schedule

The last three items in salary information block relate to whether the salary schedule information is used and, if not, provides pay information. These items are:

- Pay Type: the Code describing Pay Period for the Pay Rate information recorded in this SALARY INFORMATION BLOCK (see

Pay Rate below.) The same coding structure applies here to Pay Type as listed under the discussion in the SALARY SCHEDULE FILE. This is not necessary if next item is answered 'Y'.

- Sched (Y/N): code to designate whether to use the salary schedule codes to determine pay rate.

  Y = (yes) use the salary schedule codes to determine pay rate.

  N = (no) do not use the salary schedule codes to determine pay rate.

- Pay Rate: rate of pay to be used if the answer to the salary schedule question above is 'N'. Pay Type recorded above corresponds to the Pay Rate recorded in this cell. If Sched (Y/N) is answered 'Y', then this cell need not be completed.

WORK SCHEDULED AND PAY SCHEDULE

The following items are used by the RCM to translate personnel pay and benefit rates into a variety of standardized units. Each of the six cells is described below and this is followed by some examples of how the information may be used to determine alternative pay standards. The following items would also be useful in producing information necessary for possible payroll applications.

As many of the following items should be completed as possible. The more extensive this information, the easier it is to ensure that there will be a match between pay rates and pay types recorded in this file and the way resources are assigned to the DELIVERY SYSTEM WORKSHEETS.

Asgn FTE: the Proportion of an FTE spent in this assignment. If an individual spends one-quarter of full-time in this assignment, then 0.25 should be recorded in this cell.

The remaining items should reflect total work schedule for all assignments with identical data recorded in the SALARY INFORMATION BLOCK. These items information will differ as the SALARY INFORMATION BLOCK changes. For example, a teacher with three regular assignments that add up to full time is likely to have the same SALARY INFORMATION for all three assignments. If a fourth assignment is added to reflect additional activities beyond full time (e.g., coaching after school or hourly pay for attending special meetings), then the SALARY INFORMATION is likely to differ to reflect the special circumstances. In this instance, the WORK SCHEDULE AND PAY SCHEDULE information should be tailored to the new SALARY INFORMATION.

Total FTE: FTE for all assignments combined. If the individual works full time in all assignments combined, then 1.00 should be recorded in this cell. An individual who works only half time should have 0.50 recorded in this cell.

Mth/Yr: Months of Work Per Year. Record the number of months the individual is employed per year in this cell. Teachers in regular programs would generally have 10 month assignments, while district administrators might have 12 month assignments.

Days/Yr: Days of Work Per Year. Record the number of days of work per year in this cell. This figure should include the days for all assignments combined. Teaching assignments might consist of 180 days per year, while principals might be 225 days per year.

Hrs/Mth: Hours of Work Per Month. Record the number of hours the individual works per month in all assignments combined.

Mo/Yr HW Cont: Months per Year of District Contributions to Health and Welfare Benefits. District contributions to health and welfare benefits are generally done on a monthly basis. The number recorded in this cell should indicate the number of months over which the district makes these health and welfare contributions. If the individual is paid on a 10 month basis, then this number would be 10. If the employee is paid on a 12 month basis, then this number would be 12.

BENEFIT INFORMATION

In this block, the benefit information should be recorded for this individual in this assignment. This benefit information should be filled out completely for each assignment for which it applies. If benefits differ by assignment, then the ASSIGNMENT WORKSHEET will need to be filled out accordingly. Benefits should be set it to zero for assignments for which benefits do not apply. This is accomplished simply by not recording any information in the BENEFITS INFORMATION block for the corresponding assignment.

These procedures for recording benefit information suggest a way in which assignment information might best be organized for data entry. First, assignments for each individual should be ordered so that they appear together in the ASSIGNMENT FILE. Second, all assignments with similar benefits should be recorded together. Assignments with benefits may be recorded first followed by the sets of assignments with no benefits.

The benefit information block is divided into 12 identical

subcomponents each corresponding to a particular category of benefit. The 12 benefit categories are listed among the BEN_CAT codes presented above in Section B of the present Chapter. Each of these sub-components requests three items of information about the particular benefit category. These items are describe below.

- Code: the BENEFIT PACKAGE CODE. Insert the code for the specific benefit package in this cell. For example, alternative health insurance packages presumably would have different costs and hence different codes.

In some cases, individuals are not assigned to benefit packages per se but are provided benefit entitlements which may be distributed in any way desired by the employee among alternative benefit plans. If this is the case, then the benefit costs for any given benefit category are determined by entitlement rather than by matching the code to the BENEFITS FILE. The following two items are intended to provide information to the RCM computer program to help determine benefit costs.

- Ent: Entitlement toggle. Record a '1' in this cell the if benefit costs for the category are determined by entitlement.

- Ent Amt: Entitlement Amount. Record the amount of the entitlement in this cell for each benefit category.

CHAPTER 19

REDUCING COST VOLUME PROFIT AND THE COST OF EQUITY CAPITAL

[illegible]

[illegible]

[illegible]

provide cost information to the cost indices.

COST INDEX NAME. Record the name of the cost index in this column. This name is an 8 character name and follows the standard conventions for naming variables. Names must begin with an alpha character. They may contain alpha as well as numeric characters and underscores. No other special characters are permitted. There is a one to one correspondence between the cost index geographic code and the cost index name. This name will be used as a variable name in the RCM computer program.

VALUE OF COST INDEX. Record the actual numeric value of the cost index in this column. The standard value is set at 1.0000 and each geographic location selected should be assigned a value reflecting its cost position relative to this standardized value.

PART 3

IMPLEMENTATION OF THE RIM COMPUTER SIMULATION

CHAPTER 9

THE SIMULATION PARAMETERS

The last dataset that needs to be created in preparation for running the RDM contains the simulation parameters. These simulation parameters provide a series of instructions to the RDM computer program regarding the way certain data should be processed and utilized in the development of program costs. Some of the types of information conveyed to the RDM program by the simulation parameters include the following:

- what kinds of specific report files to produce
- the units of observation of the input and output files
- the ways in which observations are identified in the input/output datasets
- which administrative and support worksheets have been filled out
- the ways in which the number of program and/or school units are to be calculated
- rounding factors for different classes of resources
- whether or not resource cost adjustments will be used
- the ways in which capital cost allocations are determined
- whether different teacher course load policies will be recognized by the program
- inflationary adjustments for various classes of resources
- how personnel costs will be calculated and utilized within the program
- the ways in which data will be printed in the RDM report files
- proportionate adjustments for teacher and aide time and for
- proportionate adjustments for class sizes and school sizes.

The user may set these simulation parameters by modifying

the parameter values contained in the default dataset SIMPARDF which is included in the RIM program data library RIMDS2. The dataset SIMPARDF contains the default values of the simulation parameters. A printed version of this dataset is presented in Figure B-1 and is designated as RIM WORKSHEET 7. The dataset SIMPARDF contained in RIMDS2 will appear the same way at the user's computer terminal as it does in the printed version in the pages that follow.

To set the values of the simulation parameters for a simulation run, the user will need to edit the dataset SIMPARDF. Only the fields containing the PARAMETER VALUE should be edited. The edited version of this file should then be saved in the data library RIMBkeyy under the name SIMPAR, i.e., RIMBkeyy(SIMPAR). The RIM will then search for this dataset and set the parameter values according to the values appearing in this dataset.

Although the simulation parameters are explained within the printed version displayed on the pages that follow, a full understanding of the impact of these simulation parameters will require some experience in using the RIM. The values of the simulation parameters set in the SAMPLE COPY are those that might typically be used in a LOCAL application. Typical values of these parameters that might be used for a STATE application of the RIM are displayed in an abbreviated version of the simulation parameter worksheet in Appendix C.

FIGURE XI-1: SAMPLE COPY OF RCM WORKSHEET 7

RCM WORKSHEET 7

SIMULATION PARAMETERS

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	001	STATE	0	1=STATE APPLICATION, 0=LOCAL APPLICATION

This parameter designates whether the RCM is being used to support a state or local application of the RCM. The primary impact is to create an observation in the output dataset DISTOUT that summarizes state level cost and quantity information. Possible values are:

1= the RCM is being used to support the SFPM (the State Finance and Planning Model

0= if RCM is being used as Local Planning and Budgeting Model

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	002	CRBUDGET	1	1=PRODUCE PROGRAM BUDGET REPORTS,0=NO

This parameter designates whether or not the budget report dataset RCMOUTO1(BUDQTY) is to be produced. This dataset reports cost by object code for each program or service by school and district. Possible values are:

1= Create Budget Report files,

0= Do not create Budget report files.

For STATE applications, this parameter would most likely be set to 0. For LOCAL applications, this parameter may be set to 0 or 1 depending on the level of detail desired in the output.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	003	UNITOBS	0	UNIT OF OBS: 1=DISTRICT, 0=SCHOOL

This parameter designates the unit of observation for the enrollment dataset DISTRAW(ENRINDX).

1= the unit of observation is a DISTRICT

0= the unit of observation is a SCHOOL.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	004	SUM_DIST	1	1=SUM SCH ENR TO DIST LEVEL, 0=NO

This parameter designates whether or not the RCM computer program should create a district level observation within the enrollment and service level dataset DISTRAW(ENRINDX). This district level observation will contain the sums of enrollments and program units. Possible values are:

1= a district level observation will be created by the RCM program

0= a district level observation already exists and no summation is required.

This parameter should be set to '0' if UNITOBS=1. If UNITOBS=0, then SUM_DIST may be set to '1' or '0' as described below.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	011	CASE_ID	23	CASE ID CODES:1=CO_ID,2=DIST_ID,3=SCH_ID

This parameter designates the combination of ID CODES used in the RCM input and output datasets to identify the observations. Possible combinations of values for this parameter are:1, 2, 3, 12, 13, 23, 123. These codes are defined as follows:

1=CO_ID (County ID),
2=DIST_ID (District ID),
3=SCH_ID (school ID).

The user may record any combination to identify the ID codes used in the input/output datasets.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	012	CASENAME	23	CASE NAMES: 1=COUNTY,2=DISTRICT,3=SCHOOL

This parameter designates the combination of NAMES used in the RCM input and output datasets to identify the observations. Possible combinations of values for this parameter are:1, 2, 3, 12, 13, 23, 123. These codes are defined as follows:

1=COUNTY NAME,
2=DISTRICT NAME,
3=SCHOOL NAME.

The user may record any combination to identify the NAMES used in the input/output datasets.

PARAMETERS FOR UTILIZATION OF WORKSHEETS:

The next three parameters allow the user the option of not using one or more of the ADMINISTRATION AND SUPPORT worksheets. At a minimum, the RCM computer program requires that the RCM Worksheet A-1 must be completed.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	021	WSA2COMP	1	1=RCM WRKSHT A-2 IS FILLED OUT, 0=NO

1= at least one RCM Worksheet A-2 has been filled out.
0= RCM Worksheet A-2 is not used.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	022	WSA3COMP	1	1=RCM WRKSHT A-3 IS FILLED OUT, 0=NO

1= at least one RCM Worksheet A-3 has been filled out.
0= RCM Worksheet A-3 is not used.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	023	WSA4COMP	1	1=RCM WRKSHT A-4 IS FILLED OUT, 0=NO

1= at least one RCM Worksheet A-4 has been filled out.
0= RCM Worksheet A-4 is not used.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
				DETERMINATION OF THE NUMBER OF PROGRAM AND SERVICE UNITS: The next parameters allow the user a series of options related to the way in which the program determines the number of program and service units that underlie the cost calculations in the RCM.
1	031	DOUNIT_I	0	1=USE ACTUAL PROG UNITS, 0=COMPUTE UNITS
				This parameter designates whether ACTUAL or COMPUTED program or service units will be used to determine the costs of INSTRUCTIONAL PROGRAMS AND RELATED SERVICES specified on the RCM DELIVERY SYSTEM WORKSHEETS A-1.
				1= ACTUAL no. of Program or service units are to be used to determine total resources for instructional programs & related services. These units are recorded in DISTRAW(ENRINDX).
				0= no. of program and service units is COMPUTED within the RCM program and is based on enrollments recorded in DISTRAW(ENRINDX).
1	032	DOUNIT_S	0	1=USE ACTUAL SCH UNITS, 0=COMPUTE UNITS
				This parameter designates whether ACTUAL or COMPUTED numbers of schools or school service units are used to determine the costs of SCHOOL ADMINISTRATION AND SUPPORT SERVICES specified on RCM DELIVERY SYSTEM WORKSHEET A-2.
				1= actual no. of schools is used to determine sch admin & supp res.
				0= no. of schools is determined within RCM simulation
1	033	DOIUMIN	1	1=USE MINIMUM UNITS REQUIRED, 0=NO
				This parameter switches on and off the utilization of the MINIMUM UNITS REQUIRED parameter set on RCM DELIVERY SYSTEM WORKSHEET A-1. This parameter allows the user to eliminate programs from district budgets that do not enroll sufficient numbers of students to fully utilize program resources.
				1= eliminate program units if they do not exceed the minimum required for funding.
				0= place no restrictions on minimum program units for funding.
1	036	PROGUDF2	0.25	ROUNDING FACTOR FOR CASELOAD PROG UNITS
				This parameter designates the rounding factor used for the computation of the number of program or service units for the Instructional Programs and Related Services specified on the RCM DELIVERY SYSTEM WORKSHEETS A-1. This rounding factor applies exclusively to programs or services specified as caseloads. If this number is set to 0.25, caseload units will be rounded to the nearest 0.25 units. (Programs or services specified on the A-1 worksheet as classes or courses are costed out only in full units.)
2				

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

ROUNDING FACTORS FOR RESOURCES:
The next eight parameters allow the user to set rounding factors for certain categories of resources. Unless these rounding factors are overriden in the RESOURCE LIST, they are used to round off resources specified on the RCM DELIVERY SYSTEM WORKSHEETS to the nearest prespecified values set below.

1	041	RNDF_FTE	0.20	DEFAULT ROUNDING FACTOR, FTE PERSONNEL

Rounding factors used for personnel specified in terms of Full-Time-Equivalents

1	042	RNDF_HRS	0.50	DEFAULT ROUNDING FACTOR, PERS HRS/YR

Rounding factors used for personnel specified in terms of Hours per year.

1	043	RNDF_DAY	0.50	DEFAULT ROUNDING FACTOR, PERS DAYS/YR

Rounding factors used for personnel specified in terms of Days per year.

1	044	RNDF_WKS	0.50	DEFAULT ROUNDING FACTOR, PERS WEEKS/YR

Rounding factors used for personnel specified in terms of weeks per year.

1	045	RNDF_MOS	0.50	DEFAULT ROUNDING FACTOR, PERS MOS./YR

Rounding factors used for personnel specified in terms of Months per year.

1	046	RNDF_PER	1.00	DEFAULT ROUNDING FACTOR, PERS STIPENDS

Rounding factors used for personnel specified in any other unit of measurement (e.g., stipends).

1	047	RNDF_OTH	1.00	DEFAULT ROUNDING FACTOR, $ OR QTY ITEMS

Rounding factors used for expenditure and quantity items

1	048	RNDF_SQF	100	DEFAULT ROUNDING FACTOR,SQ FT BLDG SPACE

Rounding factors used for building space.

RESOURCE COST ADJUSTMENTS

1	051	DOINDEX	0	1=USE RESOURCE COST INDICES, 0=NO

This parameter allows the user to include the resource cost indices in the simulation run. These indices are stored in DISTRAW(ENRINDX) and are primarily used in STATE level applications (i.e., SFPM). For local applications DOINDEX is generally set to '0'.
1= resource cost indices ARE to be used in the simulation run
0= resource cost indices ARE NOT used in the simulation run.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

SETTING THE COSTS OF CAPITAL

The next parameters provide a way for the user to adjust the assumptions on which capital cost calculations are based.

1 061 DOCAPADJ 0 1=ADJ CAPTL FOR ACTUAL UTILIZATION ,0=NO

This parameter allows the user to switch on and off the adjustment of allocations of capital resources to reflect the actual number of program units sharing facilities within a school or district. This parameter is used in conjunction with the cell labeled "CAPITAL ADJUSTMENT" on the RCM DELIVERY SYSTEM WORKSHEET A-1.

1=adjust capital equipment allocation to reflect actual number of program units sharing facilities within the school or district.

0=make no adjustment in capital equipment allocation for sharing.

1 062 REPL_DEF 0.0 DEFAULT VALUE, CAPITAL REPLACEMENT RATE

This parameter allows the user to set the default value for annual replacement rate (due to damage or loss) for capital equipment. This default value is used only if no specific value has been assigned in the Resource List, i.e., RCM831(RESLIST).

1 063 LIFE_DEF 7 DEFAULT VALUE, CAPITAL YEARS OF LIFE

This parameter allows the user to set the default value for the life of capital equipment. This default value is used only if no specific value has been assigned in the Resource List, i.e., RCM831(RESLIST).

ADJUSTMENTS FOR VARIATIONS IN TEACHER COURSELOADS:

The following two parameters are used in conjunction to allow the user to adjust teacher time allocations to reflect differences in course load policies across local districts. It is also used in conjunction with the variable CRSLD which is included among the variables in the enrollment dataset DISTRAW(ENRINDX). These parameters and the corresponding variable are used exclusively when the RCM is being used to support the STATE level model (i.e., the SFPM).

1 071 CRSLDPAR 5 TCHR COURSE LOAD IN DEPT COURSES,A-1

This parameter designates the course load assumed for teaching personnel in departmentalized courses specified on the RCM DELIVERY SYSTEM WORKSHEET A-1. A value of 5 means teachers are responsible for five annual courses per year.

1 072 DOCRSLD 0 1=ADJ FOR DIFF CRSLD POLICIES, 0=NO

This parameter simply switches on and off the courseload adjustment.

1= teacher & aide time IS to be adjusted for different course load policies across districts,

0= teacher & aide time IS NOT adjusted for different course load policies.

```
REC  SEQ  NAME      PARAMETER
TYPE NO.  (DESC)    VALUE       PARAMETER LABEL
---- ---- --------- ----------- ------------------------------------------

     INFLATIONARY ADJUSTMENTS FOR RESOURCE COSTS:
       The following series of parameters allow the user to include
     inflationary adjustments in the unit prices of various classes of
     resources.
1    081  INFLCERT  0 .         INFLATIONARY ADJ, CERTIFIED SALARIES
       Inflation rate for certified salaries.

1    082  INFLCLSF  0           INFLATIONARY ADJ, CLASSIFIED SALARIES
       Inflation rate for classified personnel salaries

1    083  INFLEXPD  0           INFLATIONARY ADJ, EXPENDABLE ITEMS
       Inflation rate for expendable items (e.g., supplies, services)

1    084  INFLENGY  0           INFLATIONARY ADJ, ENERGY RESOURCES
       Inflation rate for energy services.

1    085  INFLCPTL  0           INFLATIONARY ADJ, CAPITAL RESOURCES
       Inflation rate for capital resources

     IDENTIFICATION OF THE RESOURCE LIST
1    091  RESL_NO   2
       This parameter allows the user to designate which of a variety of
       alternative RESOURCE LISTS are to be used in the simulation run.
       Possible values include 0, 1, or 2 to identify the specific
       RESOURCE LIST dataset (i.e., RESLIST0, RESLIST1, or RESLIST2)
       that may be stored in the RCM data library DISTRAW.
```

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
				UTILIZATION OF THE EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE: The following parameters determine whether or not and the way in which the EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION file will be utilized within the RCM simulation run. This file is primarily utilized in LOCAL applications of the RCM, although there may be circumstances in which it may be of value in STATE applications as well.
1	101	CRPERC	1	1=CREATE ASGNFILE (EXEC CRPERC), 0=NO This parameter allows the user to switch on and off the creation of the EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE, i.e., DISTRAW(ASGNFILE). 1= Read and save the ASSIGNMENT FILE for use in the simulation. 0= Do not create the ASSIGNMENT FILE for use in the simulation.
1	102	USESCHED	1	1=USE SAL SCHED,0=SALARY ON ASGNFILE This parameter is only used when CRPERC is set to '1' (i.e., when the ASSIGNMENT FILE is being utilized. It allows the user to designate the source of salary information for personnel. 1= Use the salary schedule file, i.e., DISTRAW(SALSCHED) as the source for personnel salary information. 0= Use pre-existing salary data included in the ASSIGNMENT FILE as the source for personnel salary information.
1	103	ADD_PERC	1	SOURCE OF PERS COST:1=ASGNFILE,0=RESLIST This parameter allows the user to determine whether the ASSIGNMENT FILE or the RESOURCE LIST should be used as the basis for the calculation of personnel salary and benefit costs. 1= Use the ASSIGNMENT FILE, i.e., DISTRAW(ENRINDX) as the basis for personnel costs calculations. 0= Use the RESOURCE LIST, DISTRAW(RESLISTi) as the basis for personnel cost calculations.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

The next four parameters allow the user to determine the variables used to sort and match the personnel salary and benefit data derived from the ASSIGNMENT FILE to the RCM DELIVERY SYSTEM WORKSHEETS A-1, 2, 3, and 4. Personnel salaries and benefits may be matched by OBJECT CODES or by OBJECT CODES within CATEGORY and/or SERVICE CODES. If the user desires salaries and benefits to be calculated at the finest level of detail, then these files should be sorted by CATEGORY, SERVICE as well as OBJECT CODES. This would have the effect, for example, of computing average teacher salaries and benefits by program. If simply average teacher salaries and benefits is desired with regard to the program in which a teacher serves, then the personnel cost datasets should be sorted and matched by OBJECT CODES alone.

1 111 BYCODEP1 1 A-1 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-1.

0= personnel costs are calculated by OBJECT CODES (i.e., IRESCODE IRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., PASCCODE IRESCODE IRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., PASCCODE IRS_CODE IRESCODE IRESUNIT)

1 112 BYCODEP2 1 A-2 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-2.

0= personnel costs are calculated by OBJECT CODES (i.e., SRESCODE SRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., SASCCODE SRESCODE SRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., SASCCODE SASSCODE SRESCODE SRESUNIT)

1 113 BYCODEP3 1 A-3 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-3.

0= personnel costs are calculated by OBJECT CODES (i.e., PRESCODE PRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., PASCCODE PRESCODE PRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., PASCCODE PASSCODE PRESCODE PRESUNIT)

1 114 BYCODEP4 1 A-4 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-4.

0= personnel costs are calculated by OBJECT CODES (i.e., DRESCODE DRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., DASCCODE DRESCODE DRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., DASCCODE DASSCODE DRESCODE DRESUNIT)

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
		PRINT PARAMETERS		
1	191	LEN_NAME	20	LENGTH OF CASE NAME IN PRINT PROGRAMS
		Number of columns desired to print the county, district, and school names in the print programs.		
1	192	OBS_LIST		1=PRINT SUBSET OF OBSERVATIONS, 0=PRINT ALL OBS
		This parameter allows the user to subset the list of districts to be included in the RCM output reports.		
		1= the list of observations to be printed is to be subset and the subset list of district ID codes is in RCMRAWyy(OBS_LIST),		
		0= the full list of observations is to be printed.		
1	193	PR_DIST		1=PRINTS DISTRICT TOTALS ONLY, 0=PRINT ALL OBS
		This parameter allows the user to print only the district totals in the RCM output reports. This parameter applies only when UNITOBS=0.		
		1= print only the observations containing the district totals in the RCM report datasets to be stored in RCMOUTzz,		
		0= print both school and district observations in the RCM reports.		
		ADJUSTMENT OF PROGRAM AND SERVICE UNIT SIZES		
1	500	DCLSSZ	0	PROPORTIONATE CHANGE IN CLASS SIZES, ALL PROGRAMS
		the proportionate change in class sizes across all programs desired for this simulation.		
1	600	DAIDES	0	PROPORTIONATE CHANGE IN AIDE TIME, ALL PROGRAMS
		the proportionate change in the allocation of aide time across all program categories for this simulation.		
1	700	DSCHSZ	0	PROPORTIONATE CHANGE IN SCHOOL SIZE, ALL SCH TYPES
		the proportionate change in school size desired for this simulation		

CHAPTER XI

INSTALLING AND RUNNING THE RCM COMPUTER PROGRAMS

As indicated in Chapter III, the RCM is written using the SAS System. The computer program used to run simulations is contained in the member named RCM in the program library RCM852, i.e., RCM852(RCM). All of the necessary JCL for running the RCM is contained in this program. This JCL has been written for the SAS System running under OS/MVS running on the IBM 3084 computer located at Stanford University. However, the RCM can be modified to run at almost any installation running the full SAS System. In some cases, JCL may have to be modified to fit system specifications. These kinds of modifications can be easily made by local programmers with knowledge of the system.

Basic SAS System procedures that must be operational to run the RCM include SORT, PRINT, TRANSPOSE, MATRIX, SUMMARY, and MEANS. The core of the RCM cost simulation is written using the MATRIX procedure. In addition, the ability to use the simulation parameters referred to in Chapter X is dependent entirely on the availability of the MACRO facility that was introduced with the SAS System Version 82.3. The MACRO facility permits conditional execution of certain components of the RCM programming code.

The system options under which SAS has been installed on the IBM 3084 at Stanford are listed in Table XI-1. These options may be compared with local options to make sure of compatibility. Those that are different in some cases may have to be altered at other computer facilities to allow the RCM to run as presently written.

One other feature that the user may wish to build into a local system is an interactive command file that will automatically edit and run the RCM computer program. Appendix D contains a sample command program (RUNRCM) written using the WYLBUR line editor which is available at the Stanford Facility. This program is written to allow someone familiar with the structure of the database, but not familiar with JCL and programming language, to be able to run the RCM by simply answering a few routine questions. The underlying components of the command program are described in somewhat more detail below. This discussion is intended to provide the user with sufficient information to design command files in other interactive text editors where WYLBUR is not available.

TABLE XI-1

SAS SYSTEM OPTIONS ON THE IBM 3084 AT STANFORD

SYSTEM PARAMETERS AND OPTIONS

BAUD=1200	COMMUNICATIONS LINE BIT RATE
BLDLTABLE	USE BLDL TABLE FOR PROGRAM MANAGEMENT?
BLKSIZE=0	DEFAULT BLKSIZE
BUFNO=2	DEFAULT NUMBER OF BUFFERS
BYERR	NULL BY LIST/STMT ON _NULL_ INPUT DATA SETS AN ERROR?
NOCAPS	TRANSLATE QUOTED STRINGS AND TITLES TO UPPER CASE?
CARDS=MAX	CARDS PUNCHED LIMIT
NOCASORT	SYSTEM SORT IS CASORT?
C96	EITHER C48, C60 OR C96 FOR 48, 60 OR 96 CHARACTER SET
CENTER	CENTERING?
NOCHARCODE	CHARACTER CODES ?-,?=,?/ FOR _,¬,|
NOCHKPT	CHECKPOINT AT END OF EVERY STEP?
NOCLIST	SAS STATEMENTS FROM TSO COMMAND PROCEDURES?
DATE	DATE PRINTED IN TITLE?
DEVADDR=	DEVICE ADDRESS, QNAME OR NODE NAME
DEVICE=ZET36SM	TERMINAL DEVICE NAME
DISK=DISK	NAME FOR DISK UNIT
DQUOTE	ALLOW DOUBLE-QUOTED (QUOTATION MARKS:"") LITERALS?
DSNFERR	TREAT DATA SET NOT FOUND AS AN ERROR? NO = SET TO _NULL_
DSRESV	OS DATA SETS RESERVED OR ENQUEUED?
NODUMP	SAS ERROR HANDLER INVOKED?
NODYNALLOC	SORT UTILITY TO DYNAMICALLY ALLOCATE SORT WORK AREAS?
NOERRORABEND	ABEND ON ERROR CONDITIONS?
ERRORS=20	MAXIMUM NUMBER OF OBSERVATIONS WITH ERROR MESSAGES
FILSZ	SORT UTILITY SUPPORT FILSZ PARAMETER?
FIRSTOBS=1	DEFAULT FIRST OBSERVATION TO BE PROCESSED
NOFMTERR	TREAT MISSING FORMAT OR INFORMAT AS AN ERROR?
NOFS	PROCEDURES TO OPERATE IN FULL SCREEN MODE?
NOFSP	SAS/FSP ENABLED?
GCLASS='G'	SAS/GRAPH IBM3287 SYSOUT CLASS
GCOPIES=(1,20)	SAS/GRAPH IBM3287 SYSOUT DEFAULT AND MAXIMUM NUMBER OF COPIES
GDEST='LOCAL'	SAS/GRAPH IBM3287 SYSOUT DESTINATION
GEN=5	DEFAULT NUMBER OF GENERATIONS OF HISTORY KEPT
GFORMS=''	SAS/GRAPH IBM3287 SYSOUT FORMS CODE
GRAPHICS	SAS/GRAPH SUPERVISOR REQUIRED?
GWRITER='SASWTR'	SAS/GRAPH IBM3287 SYSOUT WRITER NAME
NOIMPLMAC	SAS STATEMENTS SCANNED FOR IMPLICIT INVOCATION OF A 'STMT' MACRO?
IMS	SAS/IMS-DL/I ENABLED?
INCLUDE	PROCESS %INCLUDE STATEMENT(S)?
INITSTMT=''	INITIAL SAS STATEMENT(S) EXECUTED BEFORE SYSIN
INTERACTIVE	DO NOT TAKE BATCH DEFAULTS WHEN EXECUTING INTERACTIVELY
INVALIDDATA=.	MISSING VALUE FOR INVALID DATA
LABEL	PRINT VARIABLE LABELS?
LAST=_NULL_	LAST DATA SET CREATED
LEAVE=16384	UNALLOCATED MEMORY PARAMETER
LISTPF=)	DEFAULT PF KEY DEFINITIONS FOR HELP FACILITY (AND FOR PROC FSLIST)
LINESIZE=132	LINE SIZE FOR PRINT
LOG=FT11F001	DDNAME FOR LOG

```
MACRO                 PERFORM MACRO PROCESSING?
NOMACROGEN            LIST MACRO TEXT GENERATED?
MCOMPILE              MACRO COMPILER LOADED BY DEFAULT?
MEMRPT                MEMORY USAGE REPORTS DISPLAYED?
MERROR                APPARENT UNDEFINED MACRO REFERENCES CONSIDERED AN ERROR?
MISSING='.'           PRINTED SYSTEM MISSING VALUE
MLEAVE=6144           UNALLOCATED MACRO MEMORY PARAMETER?
NOMLOGIC              MACRO LOGIC TRACE OPTION?
MODECHARS='?>*'       PROMPT MODE CHARACTERS
NOMPRINT              MACRO FACILITY RESULTS PRINTED IN A SYNTHETIC COMPRESSED FORM?
MSIZE=12288           AMOUNT OF MEMORY RESERVED FOR MACRO FACILITY
MSYMSIZE=1024         INITIAL MACRO SYMBOL TABLE SIZE
MWORK=2048            MACRO WORK AREA SIZE
NDSVOLS=              VOL SER UPON WHICH NO SAS DATA LIBRARY PROCESSING IS TO OCCUR
                      (_NULL_ IS ASSUMED).
NEWS                  CURRENT NEWS PRINTED ON LOG?
NOTES                 SAS NOTES ARE TO BE PRINTED.
NUMBER                PAGES NUMBERED?
OBS=MAX               DEFAULT LAST OBSERVATION TO BE PROCESSED
OFFLINE=0.0000        COST OF OFFLINE DISK STORAGE PER TRACK PER DAY
ONLINE=0.0157         COST OF ONLINE DISK STORAGE PER TRACK PER DAY
OPLIST                LIST EXEC OPTIONS ON LOG?
NOOVP                 NOOVP IF NO OVERPRINTING ALLOWED, OVP OTHERWISE
PAGES=MAX             PAGES PRINTED LIMIT
PAGESIZE=60           PAGE SIZE FOR PRINT
PARM=''               PARM FOR EXTERNAL PROGRAMS
PARMCARDS=FT15F001    DDNAME FOR PARMCARDS
PRINTDEVICE=TEXT      SAS PRINT FILE OUTPUT ULTIMATE DESTINATION DEVICE NAME
PRINTINIT             SAS PRINT FILE INITIALIZED?
PROCSIZE=16776192     MAXIMUM PROCEDURE MEMORY ALLOCATION
PROMPTCHARS='110A010D01000000'X TERMINAL PROMPT CHARACTERS
REPLACE               ALLOW REPLACE OF PERMANENTLY ALLOCATED SAS DATA SETS?
S=80                  SOURCE STATEMENT LENGTH
S2=S                  %INCLUDE STATEMENT LENGTH
S370                  IS MACHINE A SYSTEM 370, 303X, 43XX, OR 308X?
SASHELP=SASHELP       DDNAME OF NEWS/HELP STATEMENT LIBRARY
SASNEWS=SASNEWSB      MEMBER OF HELP LIBRARY TO PRINT WHEN NEWS OPTION SPECIFIED
SEQ=8                 NUMBER OF NUMERIC DIGITS IN SEQUENCE NUMBERS
SERROR                APPARENT UNDEFINED SYMBOLIC REFERENCES CONSIDERED AN ERROR?
SKIP=0                NUMBER OF LINES TO SKIP BEFORE TITLE
NOSNP                 SNAP MACROS ENABLED?
NOSNPPROG             SNAP PROGRAM DATA SET?
SORT=1                MINIMUM SIZE OF SORT WORK AREAS IN CYLINDERS
SORTDEV=SYSDA         DEVICE NAME USED TO DYNAMICALLY ALLOCATE SORT WORK AREAS
SORTLIB=''            SORT LIBRARY DSNAME
NOSORTLIST            PASS LIST OPTION TO SORT?
NOSORTMSG             PASS MSG OPTION TO SYSTEM SORT UTILITY?
SORTMSG=SYSOUT        DDNAME OF SORT UTILITY MESSAGE FILE
SORTPGM='SORT'        ENTRY POINT NAME OF SYSTEM SORT
SORTSIZE=MAX          SIZE PARAMETER FOR THE SYSTEM SORT
SORTWKDD='SAS5'       PREFIX OF DYNAMICALLY ALLOCATED SORT WORK AREA DDNAMES
SORTWKNO=3            DEFAULT NUMBER OF SORT WORK AREAS TO ALLOCATE
```

```
SOURCE              LIST SAS SOURCE STATEMENTS?
SOURCE2             LIST INCLUDED SAS SOURCE STATEMENTS?
NOSPOOL             SPOOL TERMINAL INPUT?
STIMER              SAS ALLOWED TO USE SCP TASK TIMING FACILITIES?
NOSYMBOLGEN         PRINT SYMBOLIC REPLACEMENT TEXT?
SYNCSORT            SYSTEM SORT IS SYNCSORT?
SYSIN=SYSIN         DDNAME FOR SYSIN
SYSIN               READ STATEMENTS FROM SYSIN FILE?
SYSPARM=''          VALUE TO BE RETURNED BY SYSPARM() FUNCTION
TAPE=TAPE           TAPE UNIT NAME
TAPECLOSE=REREAD    CLOSE DISPOSITION(VOLUME POSITIONING) FOR TAPE DATA LIBRARIES
TIME=MAX            TIME LIMIT IN SECONDS
TLS=0               LINE SIZE FOR TERMINAL
TRANTAB=GTABTCAM    TERMINAL TRANSLATE TABLE
NOTSO               IS SAS TO PRODUCE RESOURCE UTILIZATION NOTES?
UNITS=11 12 13 14 15 16 17 18 19 20  SAS DD ASSIGNMENTS
USER=WORK           DDNAME FOR USER
USERPARM=''         PARM TEXT AVAILABLE TO USER EXITS
VNFERR              TREAT VARIABLE NOT FOUND ON _NULL_ DATA SET AS ERROR?
WORK=WORK           DDNAME FOR WORK
NOWORKINIT          INITIALIZE WORK FILE?


DEVICE TYPE  2301   2302   2303  2305-1 2305-2  2311   2314
-----------  ------ ------ ------ ------ ------ ------ ------
    BLKSIZE  20483   4984   4892  14136  14660   3625   7294
FILEBLKSIZE   6400   6400   6400   6400   6400   6400   3520

DEVICE TYPE  2321   3330  3330-1  3340   3350   3375   3380
-----------  ------ ------ ------ ------ ------ ------ ------
    BLKSIZE   2000  13030  13030   8368  19069  17600  23476
FILEBLKSIZE   6400   6447   6447   6400   6233   6400   6356

DEVICE TYPE  2400   3400  SYSOUT  CMS    OTHER  FBA
-----------  ------ ------ ------ ------ ------ ------
    BLKSIZE  32760  32760      .  32760  10240  20480
FILEBLKSIZE  32760  32760    141  32760   6400      .


PRINTDEV  FORMCHAR(PRINTDEVICE)
--------  ----------------------------
STANDARD  ('4F606060604F4E4F606060'X)
TEXT      ('6ABFACBFBC4F8F4FABBFBB'X)
IBM6670   ('FABFACCCBCEB8FECABCBBB'X)
IBM3800   ('6ABFACBFBC4F8F4FABBFBB'X)
U670      ('FABFACCCBCEB8FECABCBBB'X)
IMPACT    ('4FBFACBFBC4F8F4FABBFBB'X)
```

STRUCTURE OF THE COMMAND FILE.

The command file for running the RCM is outlined below. Each step is labeled and described to provide a framework for preparing similar interactive command programs using other text editors. The RCM JCL is displayed in Appendix E for easy reference in building this command file.

1. ACTIVATE THE COMMAND FILE.

The command program is activated on the Stanford system by typing: RUNRCM. This places the command program into an EXEC file from which the series of commands may be executed interactively with data supplied by the user at the terminal.

2. CHECK TO CLEAR THE PRESENT ACTIVE FILE.

The user is asked whether he/she wants to clear the present active file.

OK TO CLEAR ACTIVE? (YES/NO)

2.1. A response of YES will cause the present active file to be cleared.

2.2. A response of NO will cause the command file to be cleared.

3. REVIEW THE RCM DATABASE.

The user is asked whether he/she wants to review the database preparation.

3.1. If the user answers YES, then the data libraries necessary to run the RCM are simply listed at the terminal. This provides the user with the opportunity to review the list of datasets and compare them against those that have been created to make sure that the files are in proper order. The user is prompted to determine whether the databases are in order.

3.1.1. If the answer is YES, then the session continues.

3.1.2. If the answer is NO, then the exec file is cleared.

3.2. If the user answers NO, then the review of the data libraries is skipped.

4. BRANCH TO RUN RCM UTILITY PROGRAMS.

This section asks the user whether he/she wants to run one of

the RCM UTILITY programs.

4.1. If the answer is NO, then the program begins to build the JCL for running the RCM simulation program. GO TO STEP 5 BELOW.

4.2. If the answer is YES, then the available UTILITY programs are listed. These UTILITY PROGRAMS include the following:

A.	CRENRFI	Creates a model for the ENRINDX file
B.	ENRWS	Creates WORKSHEETS for ENROLLMENT & SERVICE level data.
C.	PRENRSIZ	Prints ENROLLMENT data from ENRINDX and compares programs and services against those in WSA1,2,3,4.
D.	PRLISTS	Prints lists of programs and services from WSA1,2,3,4.

The user is asked which program he/she desires to run. This program is then brought into the active file.

4.2.1. The users ACCOUNT number is entered into the JCL for running the program.

4.2.2. The user is then asked to enter two sequence numbers:

4.2.2.1. THE SIMULATION SEQUENCE NUMBER (zz used to label RCMSASzz and RCMOUTzz) and

4.2.2.2. THE SEQUENCE NUMBER FOR THE RAW DATABASE (yy used to label RCMRAWyy).

The command file then issues a command to CHANGE 'zz' and 'yy' to the appropriate sequence numbers entered by the user at the terminal.

4.2.3. The program is then prepared for running by asking the user questions about execution priorities, time blocks and other related items necessary to issue a RUN COMMAND for the program.

4.2.4. The user is then prompted to determine whether or not he/she desires to run another one of the UTILITY programs.

4.2.4.1. If the answer is YES, then the command program is returned to section 4.2 above where the same sequence of

questions is asked in preparation for running the next UTILITY program.

4.2.4.2. If the answer is NO, then the command program is CLEARED.

5. BUILD THE FILE TO RUN THE RCM SIMULATION.

The RCM simulation program, RCMB52(RCM), is brought into the active file and the process of editing this file for running the simulation is initiated.

5.1. The user is asked to enter the SIMULATION SEQUENCE NUMBER, zz, which is used to identify the SAS output file (RCMSASzz) and the output data library (RCMOUTzz). The command file CHANGES 'zz' to the appropriate sequence number entered at the terminal.

5.2. The user is asked: Are the output datasets RCMSASzz and RCMOUTzz already stored on disk?

5.2.1. If the answer is YES, then STEP 01 is deleted from the RCM program. STEP 01 is designed to allocate the space for RCMSASzz and RCMOUTzz. (All STEPS within the program are identified by a two digit sequence number in columns 1 and 2.)

5.2.2. If the answer is NO, then STEP 01 is left in the program.

5.3. The user is asked to enter the SEQUENCE NUMBER, yy, for the raw database, RCMRAWyy. The command file CHANGES 'yy' to the appropriate sequence number entered at the terminal.

5.4. The user is asked: Do you want DISTRICT/SCHOOL OUTPUT or only SUMMARY COST DATA? The user could be prompted to respond D=DISTRICT/SCHOOL OUTPUT or S=SUMMARY COST DATA only.

5.4.1. If the DISTRICT/SCHOOL output is desired (the user responds with a 'D' at the terminal), then all STEPS of the RCM program should be included. The command file then goes to 5.5 below.

5.4.2. If only the SUMMARY COST DATA are desired, then the last four STEPS listed below should be deleted.

Delete:
STEP 09. RCMB52(CRDINrrr)
STEP 10. RCMB52(SM)

STEP 11. RCM852(PRRAWOUT)
STEP 12. RCM852(PRBUDGET)

(Recall, the lines corresponding to each STEP are identified with STEP numbers in columns 1 and 2.) From here the command file GOES TO 5.9 below.

5.5. The user is asked about the SAS REGION and LEAVE parameters necessary to run the program RCM852(SM). With less than 200 total programs and services among all of the RCM DELIVERY SYSTEM WORKSHEETS A-1,2,3,4, the user is probably safe with a SAS REGION=1000K and a LEAVE parameter=175K. Beyond this size the user should increase the region and leave parameters. (With 450 programs, the RCM has required a SAS REGION=4000 and LEAVE parameter=350.) It is recommended that the user determine appropriate SAS REGION and LEAVE parameters for institutional utilization of the RCM and set these parameters permanently within the RCM program. This STEP may then be eliminated from the interactive command file.

The default values built into the sample command file for SAS REGION and LEAVE are 1000K AND 175K, respectively. To enter the user responses, the command file should CHANGE 'SASRGN=K' to 'SASRGN=nnnnK' and 'LEAVE=K' to 'LEAVE=mmmK' where nnnn=4 digit number designating the SAS region and mm=3 digit number designating the LEAVE parameter.

5.6. The user is asked to enter the information necessary to identify the INPUT DISTRICT DATABASE, i.e., DISTDATA.vvYwwww.SASxx.

5.6.1. xx=SEQUENCE NUMBER OF THE INPUT DISTRICT DATABASE.

5.6.2. vv=2-Character AGENCY ID CODE (e.g., AK for Alaska or CA for California).

5.6.3. wwww=SCHOOL YEAR for this simulation (e.g., 8485).

5.7. The user is asked whether DISTDATA.vvYwwww.SASxx is already stored on disk.

5.7.1. If the answer is YES, then the JCL pointing to DISTDATA with 'DISP=OLD' is used in STEP 09, RCM852(CRDINrrr) in the RCM program.

5.7.2. If the answer is NO, then the JCL pointing to DISTDATA with 'DISP=(NEW' is used in STEP 09.

The user is referred to Appendix C for a sample copy of the RCM JCL program.

5.8. The user is asked Are you revising any of the data contained in DISTDATA.vvYxxxxx.SASxx.

5.8.1. If the answer is NO, then STEP 09 is deleted. GO TO STEP 5.9 below.

5.8.2. If the answer is YES, then STEP 09 is maintained and the user is asked about the SOURCE dataset for creating the DISTRICT INPUT DATABASE. The two alternatives are:

A - Raw database, DISTRAW(ENRINDX).

B - A previously created SAS database. DISTDATA.vvYkkkk.SASii.

5.8.2.1. If the user selects 'A', then the command file selects the program RCMB52(CRDINRAW) for STEP 09 and the DD statement DISTSASI is deactivated, while the DD statement DISRAWI is activated.

5.8.2.2. If the user selects 'B', then the command file selects the program RCMB52(CRDINSAS) for STEP 09 and the DD statement DISTSASI is activated, while the DD statement DISTRAWI is deactivated. In addition the school year and the sequence number of the previously created file should be identified:

5.8.2.2.1. ii=SEQUENCE NUMBER OF PREVIOUS DISTDATA FILE.

5.8.2.2.2. kkkk=SCHOOL YEAR FOR PREVIOUS DISTDAT FILE.

5.9. The command file establishes the logged on ACCOUNT number and replaces 'ACCT' in the RCM program with that number.

5.10. The user is asked Do you want to run all STEPS in the RCM simulation program?

5.10.1. If the user answers YES, then the command file GOES TO STEP 5.11 BELOW.

5.10.2. If the user answers NO, then the program STEPS remaining are listed at the terminal. (Some of the program STEPS may have been eliminated

as a result of responses to earlier questions within this command file.] The user is then asked which STEPSto EXCLUDE from the program. The purpose of this section of the command file is to allow the user to run only a portion of the program.

5.11. The program is then prepared for RUNNING THE RCM by asking the user questions about execution priorities, time blocks and other related items necessary to issue the RUN COMMAND for the RCM simulation. Part of the preparation of the RCM simulation involves removing the RCM program STEP codes in columns 1/2 of the program. The program may either be run or placed in the users active file for review before running.

APPENDICES

APPENDIX A: FILE FORMATS FOR RCM DATABASE

APPENDIX B: GLOSSARY OF TERMS

APPENDIX C: SIMULATION PARAMETERS FOR TYPICAL STATE APPLICATION OF THE RCM

APPENDIX D: SAMPLE COMMAND PROGRAM USING WYLBUR TO RUN THE RCM PROGRAM

APPENDIX E: SAMPLE COPY OF RCM JCL FROM STANFORD COMPUTER SYSTEM, IBM 3084

APPENDIX A: FILE FORMATS FOR RCM DATABASE

FORMATS FOR THE EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE.

DSN=DISTRAW(ASGNFILE)

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
ASGN_NO=0:	(EMPLOYEE IDENTIFICATION RECORD)		
ASGN_NO	ASSIGNMENT NUMBER	1-1	
PERS_ID	EMPLOYEE IDENTIFICATION CODE	5-15	CHAR
LAST	LAST NAME OF EMPLOYEE	16-40	CHAR
FIRST	FIRST NAME OF EMPLOYEE	41-55	CHAR
MIDDLE	MIDDLE NAME OF EMPLOYEE	56-56	CHAR
	* * * * * * *		
ASGN_NO>=1:	(ASSIGNMENT INFORMATION BLOCK)		
CARD #1:			
ASGN_NO	ASSIGNMENT NUMBER	1-1	
SCH_ID	SCHOOL IDENTIFICATION CODE	6-15	CHAR
WS_CODE	WORKSHEET CODE FOR THIS ASSIGNMENT	16-16	CHAR
CAT_CODE	CATEGORY CODE FOR THIS ASSIGNMENT	21-30	CHAR
SERVCODE	PROGRAM/SERVICE CODE FOR THIS ASSIGNMENT	31-40	CHAR
OBJ_CODE	OBJECT OR RESOURCE CODE FOR THIS ASSIGNMENT	41-50	CHAR
SCHED	SALARY SCHEDULE CODE FOR EMPLOYEE/ASSIGNMENT	51-55	CHAR
STEP	CODE FOR STEP ON SALARY SCHEDULE	56-60	CHAR
CLASS	CODE FOR EDUCATION CLASS ON SALARY SCHEDULE	61-65	CHAR
PAYTYPEA	PAY TYPE CODE FOR THIS ASSIGNMENT FILE	66-66	CHAR
SCHED_YN	CODE FOR WHETHER PAY IS FROM SALARY SCHEDULE	68-68	CHAR
PAYRATEA	PAY RATE FOR ASSIGNMENT (IF NOT ON SCHEDULE)	71-80	
FTE_ASGN	FULL-TIME-EQUIVALENCE FOR THIS ASSIGNMENT	81-85	
FTE_TOT	TOTAL FULL-TIME-EQUIV FOR THIS EMPLOYEE	86-90	
MNTHS_YR	MONTHS OF WORK PER YEAR	91-95	
DAYS_YR	DAYS OF WORK PER YEAR	96-100	
HRS_MNTH	HOURS OF WORK PER MONTH	101-110	
MNTHS_HW	MONTHS CONTRIBUTIONS FOR HEALTH & WELFARE	111-115	
CARD # 2:			
HLTHCODE	BENEFIT PACKAGE CODE FOR HEALTH INSURANCE	11 - 15	CHAR
HLTH_ENT	=1 IF HLTH INSUR DETERMINED BY ENTITLEMENT	16 - 20	
DNTLCODE	BENEFIT PACKAGE CODE FOR DENTAL INSURANCE	21 - 25	CHAR
DNTL_ENT	=1 IF DENTAL INS DETERMINED BY ENTITLEMENT	26 - 30	
VISNCODE	BENEFIT PACKAGE CODE FOR VISION INSURANCE	31 - 35	CHAR
VISN_ENT	=1 IF VISION INS DETERMINED BY ENTITLEMENT	36 - 40	
LIFECODE	BENEFIT PACKAGE CODE FOR LIFE INSURANCE	41 - 45	CHAR
LIFE_ENT	=1 IF LIFE INS DETERMINED BY ENTITLEMENT	46 - 50	
DISACODE	BENEFIT PACKAGE CODE FOR DISABILITY INSUR	51 - 55	CHAR
DISA_ENT	=1 IF DISABILITY INS DETERMINED BY ENTITLE'T	56 - 60	
TAXSCODE	BENEFIT PACKAGE CODE FOR TAX SHELTER	61 - 65	CHAR
TAXS_ENT	=1 IF TAX SHELTER CONTR DETRMND BY ENTITL'T	66 - 70	
OHWBCODE	BENEFIT PACKAGE CODE FOR OTHR $ CONTRI	71 - 75	CHAR
OHWB_ENT	=1 IF OTHER CONTR DETERMINED BY ENTITLEMENTS	76 - 80	
RETSCODE	BENEFIT PACKAGE CODE FOR RETIREMENT	81 - 85	CHAR

FORMATS FOR EMPLOYEE ASSIGNMENT FILE continued...

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
RETS_ENT	=1 IF RETIREMENT CONTR DETRMND BY ENTITL'T	86 - 90	
FICACODE	BENEFIT PACKAGE CODE FOR FICA PLAN	91 - 95	CHAR
FICA_ENT	N/A .	96 - 100	
SUINCODE	BENEFIT PACKAGE CODE FOR STATE UNEMPLMNT	101 - 105	CHAR
SUIN_ENT	N/A	106 - 110	
WCOMCODE	BENEFIT PACKAGE CODE FOR WORKMNS COMP	111 - 115	CHAR
WCOM_ENT	N/A	116 - 120	
ORATCODE	BENEFIT PACKAGE CODE FOR OTHER RATE BENEFTS	121 - 125	CHAR
ORAT_ENT	N/A	126 - 130	
CARD # 3			
HLTH_AMT	ENTITLEMENT AMOUNT FOR HEALTH INSURANCE	11 - 20	
DNTL_AMT	ENTITLEMENT AMOUNT FOR DENTAL INSURANCE	21 - 30	
VISN_AMT	ENTITLEMENT AMOUNT FOR VISION INSURANCE	31 - 40	
LIFE_AMT	ENTITLEMENT AMOUNT FOR LIFE INSURANCE	41 - 50	
DISA_AMT	ENTITLEMENT AMOUNT FOR DISABILITY INSUR	51 - 60	
TAXS_AMT	ENTITLEMENT AMOUNT FOR TAX SHELTER	61 - 70	
OHWB_AMT	ENTITLEMENT AMOUNT FOR OTHER $ CONTR	71 - 80	
RETS_AMT	ENTITLEMENT RATE FOR RETIREMENT	81 - 90	
FICA_AMT	ENTITLEMENT RATE FOR FICA	91 - 100	
SUIN_AMT	ENTITLEMENT RATE FOR STATE UNEMPL	101 - 110	
WCOM_AMT	ENTITLEMENT RATE FOR WORKMANS COMP	111 - 120	
ORAT_AMT	ENTITLEMENT RATE FOR OTHER RATES	121 - 130	

FORMATS FOR BENEFITS FILE.

DSN=DISTRAW(BENEFITS)

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
BEN_CAT	BENEFIT CATEGORY CODE	1-4	
BEN_CODE	BENEFIT PACKAGE CODE	6-10	CHAR
BEN_RATE	BENEFIT RATE OR CONTRIBUTION AMOUNT	11-20	
BEN_TYPE	BENEFIT TYPE CODE	21-21	CHAR
BEN_DESC	BENEFIT PACKAGE DESCRIPTION	31-70	CHAR

FORMATS FOR SALARY SCHEDULE FILE.

DSN=DISTRAW(SALSCHED)

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
SCHED	CODE FOR SALARY SCHEDULE	1-5	CHAR
PAYTYPES	PAY TYPE CODE FOR SALARY SCHEDULE	6-6	CHAR
STEP	STEP CODE FOR SALARY SCHEDULE	11-15	CHAR
CLASS	EDUCATION CLASS CODE FROM SALARY SCHEDULE	16-20	CHAR
PAYRATES	PAY RATE FOR SALARY SCHEDULE	21-30	

FORMATS FOR ENROLLMENT AND SERVICE LEVEL FILE.

DSN=DISTRAW(ENRINDX)

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
RECORD TYPE=1: (COUNTY IDENTIFICATION RECORD)			
RECTYPE	RECORD TYPE	1-1	
CO_ID	COUNTY CODE (MAX OF 4 DIGITS)	2-5	
COUNTY	COUNTY NAME (MAX OF 40 CHARACTERS)	31-70	CHAR VARS
	* * * * * * *		
RECORD TYPE=2: (DISTRICT IDENTIFICATION RECORD)			
RECTYPE		1-1	
CO_ID		2-5	
DIST_ID	DISTRICT ID CODE (UP TO 10 DIGITS)	6-15	
DISTRICT	DISTRICT NAME (MAX OF 40 CHARACTERS)	31-70	CHAR VARS
OBSTYPE	OBSERVATION TYPE CODE	71-80	
	* * * * * * *		
RECORD TYPE=3: (SCHOOL IDENTIFICATION RECORD)			
RECTYPE		1-1	
CO_ID	COUNTY CODE	2-5	
DIST_ID	DISTRICT CODE	6-15	
SCH_ID	SCHOOL ID CODE (UP TO 10 DIGITS)	16-25	
SCHOOL	SCHOOL NAME (MAX OF 40 CHARACTERS)	31-70	CHAR VARS
OBSTYPE	OBSERVATION TYPE CODE	71-80	
	* * * * * * *		
RECORD TYPE=4: (PROGRAM AND SERVICE ENROLLMENTS AND SIZES)			
CO_ID	COUNTY CODE	2-5	
DIST_ID	DISTRICT CODE	6-15	
SCH_ID	SCHOOL ID CODE (UP TO 10 DIGITS)	16-25	
WS_CODE	RCM WORKSHEET CODE=LEVEL OR FUNCTION CODE 1=WORKSHEET A-1 (INSTRUCTIONAL PROGRRAMS & RELATED SERVICES) 2=WORKSHEET A-2 (SCHOOL ADMINISTRATION & SUPPORT SERVICES) 3=WORKSHEET A-3 (PROGRAM ADMINISTRATION & SUPPORT SERVICS) 4=WORKSHEET A-4 (DISTRICT ADMINISTRATION & SUPPORT SERVICES)	26-26	
SERVDESC	SERVICE/PROGRAM DESCRIPTIO (40 CHAR MAX)	31=70	CHAR VARS
CAT_CODE	CATEGORY CODE (10 CHARACTERS MAX)	71-80	CHAR VARS
SERVCODE	SERVICE CODE (10 CHARACTERS MAX)	81-90	CHAR VARS
SERVNAME	NAME OF SERVICE/PROGRAM (8 CHAR MNEMONIC)	91-98	CHAR VARS
UNITMEAS	CODE FOR UNITS OF MEAS,SERV/PROG SIZE	99-100	
ENR_SIZ1	ENR/SERV LEVEL,ANNUAL OR 1ST SEMESTER	101-108	
ENR_SIZ2	ENR/SERV LEVEL,2ND SEMESTER	109-116	
N_UNITS1	NO. PROG/SERV UNITS,ANNUAL OR 1ST SEMESTER	117-124	
N_UNITS2	NO. PROG/SERV UNITS,2ND SEMESTER	125-132	

FORMATS FOR ENROLLMENT AND SERVICE LEVEL FILE continued...

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
	* * * * * * *		
RECORD TYPE=5:	(RESOURCE COST INDEX DATA)		
CO_ID	COUNTY ID CODE	2-5	
DIST_ID	DISTRICT ID CODE	6-15	
SCH_ID	SCHOOL ID CODE	16-25	
CIDESC	DESCRIPTION OF RESOURCE COST INEX	26-50	CHAR VARS
CICODE	CODE FOR RESOURCE COST INDEX	51-60	CHAR VARS
CINAME	8-CHAR NAME FOR RESOURCE COST INDEX	61-68	CHAR VARS
COSTINDX	VALUE OF RESOURCE COST INDEX,THIS SCHOOL	71-80	

Instructions for Data Entry for ENROLLMENT AND SERVICE LEVEL WORKSHEETS

The enrollment file contains five different record types: three identification records (RECORD TYPES 1, 2, and 3) for the COUNTY, DISTRICT and SCHOOL; one record type (=4) for the enrollment and service level and unit data; and one record type (=5) for the resource cost index data. The resource cost index record (type=5) is used primarily for state applications of the RCM where separate analyses have been done of cost adjustments by resource. Each of these records is identified and described above.

In entering the data, the following procedure should be followed to facilitate editing the file.

(1) Enter only one COUNTY IDENTIFICATION RECORD for each county. This record should immediately precede the other records for districts and schools and the enrollment data within that county.

(2) Immediately following each county record should be a DISTRICT IDENTIFICATION RECORD designating the first district within the county.

(3) Immediately following each district record should be a SCHOOL IDENTIFICATION RECORD designating the first school within the district. This record is unnecessary if enrollment data are gathered on a district by district basis rather than school by school.

(4) Immediately following the SCHOOL IDENTIFICATION RECORD should be all of the corresponding records including the ENROLLMENTS AND SERVICE LEVELS for the programs and services offered within that school. Programs and services not offered within that school need not be listed in this record.

Enrollments and service levels corresponding to the different types of worksheets may be either integrated or recorded in separate parts of this file depending on the convenience to the user. In any case the same procedures should be followed in each case.

A model of the organization of the data file would be as follows:

```
COUNTY IDENTIFICATION RECORD FOR COUNTY A

     DISTRICT IDENTIFICATION RECORD FOR DISTRICT A
          SCHOOL IDENTIFICATION RECORD FOR SCHOOL A
               ENROLLMENT AND SERVICE LEVEL RECORD FOR SCHOOL A
          SCHOOL IDENTIFICATION RECORD FOR SCHOOL B
               ENROLLMENT AND SERVICE LEVEL RECORD FOR SCHOOL B

     DISTRICT IDENTIFICATION RECORD FOR DISTRICT B
          SCHOOL IDENTIFICATION RECORD FOR SCHOOL C
               ENROLLMENT AND SERVICE LEVEL RECORD FOR SCHOOL C
          SCHOOL IDENTIFICATION RECORD FOR SCHOOL D
               ENROLLMENT AND SERVICE LEVEL RECORD FOR SCHOOL D

COUNTY IDENTIFICATION RECORD FOR COUNTY B

     DISTRICT IDENTIFICATION RECORD FOR DISTRICT C
          SCHOOL IDENTIFICATION RECORD FOR SCHOOL E
               ENROLLMENT AND SERVICE LEVEL RECORD FOR SCHOOL E
          SCHOOL IDENTIFICATION RECORD FOR SCHOOL F
               ENROLLMENT AND SERVICE LEVEL RECORD FOR SCHOOL F

     DISTRICT IDENTIFICATION RECORD FOR DISTRICT D
          SCHOOL IDENTIFICATION RECORD FOR SCHOOL G
               ENROLLMENT AND SERVICE LEVEL RECORD FOR SCHOOL G
          SCHOOL IDENTIFICATION RECORD FOR SCHOOL H
               ENROLLMENT AND SERVICE LEVEL RECORD FOR SCHOOL H
```

If the RCM is being used to support the EPBM, only a single district and the schools within it would be recorded in the enrollment file. If a state wide or national cost analysis were being done, then multiple counties, districts and schools would be included in the file.

Once the data have been entered, the file should be saved under the member name ENRINDX in the library DISTRAW, i.e., DISTRAW(ENRINDX).

RECORDING DATA ON TOTAL ENROLLMENTS. As indicated in Chapter V, there should be one line for each unit of observation which includes the total unduplicated enrollment count for that observation. Moreover, this count should be unduplicated both within the school and the district so that each student within a district is counted within only one school for the purpose of recording TOTAL ENROLLMENTS. Below is a sample of how this line of data should be entered.

VARIABLE NAME	COLUMNS	ITEM TO BE ENTERED
CO_ID	2-5	County ID Code
DIST_ID	6-15	District ID Code
SCH_ID	16-25	School ID Code
WS_CODE	26-26	Leave this field blank
SERVDESC	31=70	Enter 'TOTAL ENROLLMENTS, name of school'
CAT_CODE	71-80	Leave this field blank
SERVCODE	81-90	Leave this field blank
SERVNAME	91-98	TOT_ENR
UNITMEAS	99-100	Enter '1'
ENR_SIZ1	101-108	Enter the unduplicated total enrollment
ENR_SIZ2	109-116	Leave this field blank
N_UNITS1	117-124	Leave this field blank
N_UNITS2	125-132	Leave this field blank

FORMATS FOR RESOURCE LIST.

DSN=DISTRAW(RESLISTi) for i=0,1,2

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
RESCODE	RESOURCE CODE	1 -10	CHAR
RESDESC	RESOURCE DESCRIPTION	11-35	CHAR
RESNAME	RESOURCE MNEMONIC	36-41	CHAR
RESUNIT	CODE FOR UNIT OF MEASURE FOR RESOURCE PERSONNEL CODES: 101=Annual FTE 102=Hours/Year 103=Days/Year 104=Weeks/Year 105=Months/Year 109=Stipends EXPENDABLES: 201=Dollars/Year 202=Quantity/Year CAPITAL RESOURCES (Life >= 2 yrs) 301=Startup Cost 302=Startup Qty	44-47	
CICODE	CODE FOR RESOURCE COST INDEX	48-50	
RESCLASS	CODE FOR RESOURCE CLASS 1=TEACHERS 2=OTHER CERTIFIED PERSONNEL 3=INSTRUCTIONAL AIDES 4=OTHER CLASSIFIED PERSONNEL 5=EXPENDABLE ITEMS 6=ENERGY RESOURCES 7=CAPITAL RESOURCES	51-55	
PRICE	PER UNIT COST OF RESOURCE (OPTIONAL)	56-65	
LIFE	YEARS OF USEFUL LIFE (CAPITAL RES ONLY)	66-70	
REPLRATE	ANNUAL REPLACEMENT RATE (CAPITAL RES. ONLY)	71-75	
RNDUNIT	ROUNDING UNITS FOR THIS RESOURCE	76-80	

FORMATS FOR DELIVERY SYSTEM WORKSHEET A-1

Save this file in DSN = RCMRAWyy(WSA1). yy=the sequence number for the library RCMRAW which is a fixed block partitioned dataset with LRECL (Logical Record Length) of 133. This file contains four different types of records.

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
RECORD TYPE=0: (IDENTIFICATION OF PROGRAM CATEGORY) (This record needs to be entered only once for each program category and should immediately precede records for the corresponding programs and services.)			
RECTYPE	RECORD TYPE	1-1	
PASCDESC	DESCRIPTION OF PROGRAM CATEGORY	6-45	CHAR
PASCCODE	PROGRAM CATEGORY CODE	46-55	CHAR
PASCNAME	PROGRAM CATEGORY MNEMONIC	56-63	CHAR
	* * * * * * *		
RECORD TYPE=1: (IDENTIFICATION OF PROGRAM OR SERVICE)			
RECTYPE	RECORD TYPE	1-1	
IRS_DESC	PROGRAM OR SERVICE DESCRIPTION	6-45	CHAR
PASCCODE	PROGRAM CATEGORY CODE	46-55	CHAR
IRS_CODE	PROGRAM OR SERVICE CODE (WITHIN CATEGORY)	56-65	CHAR
IRS_NAME	PROGRAM OR SERVICE MNEMONIC	66-73	CHAR
SASCCODE	CODE FOR AFFILIATED SCHOOL SERV CATEGORY	76-85	CHAR
	* * * * * * *		
RECORDTYPE=2: (PROGRAM AND SERVICE SIZE)			
RECTYPE	RECORD TYPE	1-1	
PROGSIZE	(OPTIONAL RECORD DESCRIPTION)=PROGRAM SIZE	6-30	CHAR
ISIZUNIT	CODE FOR UNIT OF MEASURE FOR PROGRAM SIZE<1>	41-45	
ISIZE1	MINIMUM SIZE OF PROGRAM UNIT	46-55	
ISIZE2	CASELOAD OR TARGET SIZE OF PROGRAM UNIT	56-65	
ISIZE3	MAXIMUM SIZE OF PROGRAM UNIT	66-75	
MINUNITS	MINIMUM UNITS REQUIRED FOR FUNDING	76-77	
IK_ADJ	SWITCH TO TURN CAPITAL ADJUSTMENT ON/OFF 1=ON or Yes 0=OFF or No	86-86	
	* * * * * * *		
RECORD TYPE>=3: (RECORDS IDENTIFYING PROGRAM RESOURCE REQUIREMENTS)			
RECTYPE	RECORD TYPE	1-1	
IRESDESC	RESOURCE DESCRIPTION	6-30	CHAR
IRESCODE	RESOURCE CODE	31-40	CHAR
IRESUNIT	CODE FOR UNIT OF MEASURE FOR RESOURCE<2>	41-45	
IRESQTY1	RESOURCE QUANTITY, MINIMUM SIZED PROGRAM	46-55	
IRESQTY2	RESOURCE QUANTITY,CASELOAD OR TARGET SIZE	56-65	
IRESQTY3	RESOURCE QUANTITY,MAXIMUM SIZED PROGRAM	66-75	
IPRICE	PER UNIT COST OF RESOURCE	86-95	
IK_LIFE	YRS OF LIFE (FOR CAPITAL RESOURCES ONLY)	96-100	
IK_REPL	YRLY REPLACEMENT RATE (CAPITAL RES ONLY)	101-105	
IK_SHARE	NUMBER OF PROGRAM SECTIONS SHARING CAPITAL	106-110	

FORMATS FOR DELIVERY SYSTEM WORKSHEET A-2

Save this file in DSN = RCMRAWyy(WSA2). yy=the sequence number for the library RCMRAW which is a fixed block partitioned dataset with LRECL (Logical Record Length) of 133. This file contains four different types of records.

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
RECORD TYPE=1: (IDENTIFICATION OF SERVICE)			
RECTYPE	RECORD TYPE	1-1	
SAS_DESC	SCHOOL TYPE & SERVICE DESCRIPTION	6-45	CHAR
SASCCODE	SCHOOL TYPE/CATEGORY CODE	46-55	CHAR
SASSCODE	SCHOOL SERVICE CODE (WITHIN TYPE/CAT.)	56-65	CHAR
SAS_NAME	SCHOOL SERVICE MNEMONIC	66-73	CHAR
	* * * * * * *		
RECORDTYPE=2: (SCHOOL SERVICE SIZE)			
RECTYPE	RECORD TYPE	1-1	
SERVSIZE	(OPTIONAL RECORD DESCRIPTION)=SERVICE SIZE	6-30	CHAR
SSIZUNIT	CODE FOR UNIT OF MEASURE FOR SCHOOL SIZE<1>	41-45	
SSIZE1	SCHOOL SIZE GROUP 1 (SMALL SIZE)	46-55	
SSIZE2	SCHOOL SIZE GROUP 2 (SMALL INTERMEDIATE)	56-65	
SSIZE3	SCHOOL SIZE GROUP 3 (LARGE INTERMEDIATE)	66-75	
SSIZE4	SCHOOL SIZE GROUP 4 (LARGE)	76-85	
	* * * * * * *		
RECORD TYPE>=3: (RECORDS IDENTIFYING SCHOOL RESOURCE REQUIREMENTS)			
RECTYPE	RECORD TYPE	1-1	
SRESDESC	RESOURCE DESCRIPTION	6-30	CHAR
SRESCODE	RESOURCE CODE	31-40	CHAR
SRESUNIT	CODE FOR UNIT OF MEASURE FOR RESOURCE<2>	41-45	
SRESQTY1	RESOURCE QUANTITY FOR SIZE GROUP 1	46-55	
SRESQTY2	RESOURCE QUANTITY FOR SIZE GROUP 2	56-65	
SRESQTY3	RESOURCE QUANTITY FOR SIZE GROUP 3	66-75	
SRESQTY4	RESOURCE QUANTITY FOR SIZE GROUP 4	76-85	
SPRICE	PER UNIT COST OF RESOURCE	86-95	
SK_LIFE	YRS OF LIFE (FOR CAPITAL RESOURCES ONLY)	96-100	
SK_REPL	YRLY REPLACEMENT RATE (CAPITAL RES ONLY)	101-105	

FORMATS FOR DELIVERY SYSTEM WORKSHEET A-3

Save this file in DSN = RCMRAWyy(WSA3). yy=the sequence number for the library RCMRAW which is a fixed block partitioned dataset with LRECL (Logical Record Length) of 133. This file contains four different types of records.

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
RECORD TYPE=1: (IDENTIFICATION OF SERVICE)			
RECTYPE	RECORD TYPE	1-1	
PAS_DESC	PROGRAM CATEGORY & SERVICE DESCRIPTION	6-45	CHAR
PASCCODE	PROGRAM CATEGORY CODE	46-55	CHAR
PASSCODE	PROGRAM SERVICE CODE (WITHIN CATEGORY)	56-65	CHAR
PAS_NAME	PROGRAM CATEGORY/SERVICE MNEMONIC	66-73	CHAR
	* * * * * * *		
RECORD TYPE=2: (PROGRAM CATEGORY SERVICE SIZE)			
RECTYPE	RECORD TYPE	1-1	
SERVSIZE	(OPTIONAL RECORD DESCRIPTION)=SERVICE SIZE	6-30	CHAR
PSIZUNIT	CODE FOR UNIT OF MEASURE OF SERVICE SIZE<1>	41-45	
PSIZE1	CATEGORY SIZE GROUP 1 (SMALL SIZE)	46-55	
PSIZE2	CATEGORY SIZE GROUP 2 (SMALL INTERMEDIATE)	56-65	
PSIZE3	CATEGORY SIZE GROUP 3 (LARGE INTERMEDIATE)	66-75	
PSIZE4	CATEGORY SIZE GROUP 4 (LARGE)	76-85	
	* * * * * * *		
RECORD TYPE>=3: (RECORDS IDENTIFYING PROGRAM RESOURCE REQUIREMENTS)			
RECTYPE	RECORD TYPE	1-1	
PRESDESC	RESOURCE DESCRIPTION	6-30	CHAR
PRESCODE	RESOURCE CODE	31-40	CHAR
PRESUNIT	CODE FOR UNIT OF MEASURE FOR RESOURCE<2>	41-45	
PRESQTY1	RESOURCE QUANTITY FOR SIZE GROUP 1	46-55	
PRESQTY2	RESOURCE QUANTITY FOR SIZE GROUP 2	56-65	
PRESQTY3	RESOURCE QUANTITY FOR SIZE GROUP 3	66-75	
PRESQTY4	RESOURCE QUANTITY FOR SIZE GROUP 4	76-85	
PPRICE	PER UNIT COST OF RESOURCE	86-95	
PK_LIFE	YRS OF LIFE (FOR CAPITAL RESOURCES ONLY)	96-100	
PK_REPL	YRLY REPLACEMENT RATE (CAPITAL RES ONLY)	101-105	

FORMATS FOR DELIVERY SYSTEM WORKSHEET A-4

Save this file in DSN = RCMRAWyy(WSA4). yy=the sequence number for the library RCMRAW which is a fixed block partitioned dataset with LRECL (Logical Record Length) of 125. This file contains four different types of records.

VARIABLE NAME	DESCRIPTION	COLUMNS	FORMAT
RECORD TYPE=1: (IDENTIFICATION OF SERVICE)			
RECTYPE	RECORD TYPE	1-1	
DAS_DESC	DISTRICT ADM & SUPPORT SERVICE DESCRIPTION	6-45	CHAR
DASCCODE	DISTRICT SERVICE CATEGORY CODE	46-55	CHAR
DASSCODE	SERVICE CODE (WITHIN CATEGORY)	56-65	CHAR
DAS_NAME	CATEGORY/SERVICE MNEMONIC	66-73	CHAR
	* * * * * *		
RECORD TYPE=2: (DISTRICT SERVICE UNIT SIZE)			
RECTYPE	RECORD TYPE	1-1	
SERVSIZE	(OPTIONAL RECORD DESCRIPTION)=SERVICE SIZE	6-30	CHAR
DSIZUNIT	CODE FOR UNIT OF MEASURE OF SERVICE SIZE<1>	41-45	
DSIZE1	SIZE GROUP 1 (SMALL SIZE)	46-55	
DSIZE2	SIZE GROUP 2 (SMALL INTERMEDIATE)	56-65	
DSIZE3	SIZE GROUP 3 (LARGE INTERMEDIATE)	66-75	
DSIZE4	SIZE GROUP 4 (LARGE)	76-85	
	* * * * * * *		
RECORD TYPE>=3: (RECORDS IDENTIFYING DISTRICT RESOURCE REQUIREMENTS)			
RECTYPE	RECORD TYPE	1-1	
DRESDESC	RESOURCE DESCRIPTION	6-30	CHAR
DRESCODE	RESOURCE CODE	31-40	CHAR
DRESUNIT	CODE FOR UNIT OF MEASURE FOR RESOURCE<2>	41-45	
DRESQTY1	RESOURCE QUANTITY FOR SIZE GROUP 1	46-55	
DRESQTY2	RESOURCE QUANTITY FOR SIZE GROUP 2	56-65	
DRESQTY3	RESOURCE QUANTITY FOR SIZE GROUP 3	66-75	
DRESQTY4	RESOURCE QUANTITY FOR SIZE GROUP 4	76-85	
DPRICE	PER UNIT COST OF RESOURCE	86-95	
DR_LIFE	YRS OF LIFE (FOR CAPITAL RESOURCES ONLY)	96-100	
DR_REPL	YRLY REPLACEMENT RATE (CAPITAL RES ONLY)	101-105	

FOOTNOTES TO FORMATS FOR DELIVERY SYSTEM WORKSHEETS

The codes for the various units of measure are presented below. These are used uniformly across all of the WORKSHEETS.

<1> UNITS OF MEASURE FOR PROGRAM SIZE:

Required Codes:	#	Optional Codes:			
1=# of Pupils	#	11=_____		21=_____	
2=FTE Teachers	#	12=_____		22=_____	
3=FTE Cert Pers	#	13=_____		23=_____	
4=FTE Clsf Pers	#	14=_____		45=_____	
5=Total FTE Pers	#	15=_____			
6=# of Schools	#				
7=Sq Ft Bldg	#				
8=Enr,Yr Course	#				
9=Enr,Sem Course	#				

<2> UNITS OF MEASURE FOR RESOURCES:

PERSONNEL:	EXPENDABLES:
101=Annual FTE	201=Dollars/Year
102=Hours/Year	202=Quantity/Year
103=Days/Year	
104=Weeks/Year	CAPITAL (life >= 2 yrs):
105=Months/Year	301=Startup Cost
109=Spec Service	302=Startup Qty

Instructions for Data Entry for the DELIVERY SYSTEM WORKSHEETS

For convenience of editing, each of the DELIVERY SYSTEM WORKSHEETS must be entered into a separate dataset. However, the layout and formats of the variables is very similar for all four of these worksheets.

Note the consistent use of the mnemonics identifying the CLASS OF DELIVERY SYSTEM. The prefixes IRS or I, SAS or S, PAS or P, and DAS or D are used for variables from the DELIVERY SYSTEM WORKSHEETS A-1, 2, 3 and 4, respectively. These prefixes are taken from "The Classification Scheme." The user should note, however, the header record for the program category (RECORD TYPE=0) includes identification of the program category using the code PASCODE which corresponds to the code with the same name identifying the CATEGORY CODE for program administration and support services. The header record for the program category need only be entered once ahead of all of the programs and services included on the A-1 Worksheet for this program.

APPENDIX B: GLOSSARY OF TERMS

CAPITAL RESOURCE: any resource with a life of 2 or more years or that is not consumed within the space of a year.

CONSUMABLE RESOURCE: any resource that is consumed within the space of a year.

COST OF EDUCATON INDEX: an overall index of the cost of providing similar educational resources and services across local public school districts. A cost of education index (or CEI) is determined by costing out some market basket of educational resources using the component or resource cost indices. The market basket may be fixed or variable. An implicit CEI may be constructed from the output of the RCM computer simulation by comparing the total cost figures for each district derived from the RCM simulation with and without the resource cost adjustments. The result of this comparison (Total Educational Cost with Resource Cost Adjustments divided by Total Educational Cost without Resource Cost Adjustments) is an implicit CEI with variable weights reflecting the differential student needs and scale of school and district operations. (See Resource Cost Adjustments below.)

DELIVERY MODE: a generic classification of alternative ways in which instructional, administrative or support services may be delivered. Alternative DELIVERY MODES for instructional programs used in the RCM may include: Departmentalized Program, Self-contained Classroom, Resource Program, Related Service, Home and hospital, school level administration and support services, district level administration and support services.

DELIVERY SYSTEM: a detailed specification of the resources required to provide some program or service. The specification of a delivery system would include, for example, the number of students served (e.g., class size, caseload, school or program size), the quantity of personnel resources (e.g., teacher, teachers' aides, administrators, or secretaries), the quantities or expenditures for supplies and materials and other miscellaneous items, and the building space required to provide this program or service.

EXPENDABLE RESOURCE: this term is used synonymously with consumable resource and refers to any resource that is used up within one year of purchase.

OBJECT CODE: a code which identifies a type of resource.

PROGRAM: In its broadest useage within the RCM, the term program refers to any DELIVERY SYSTEM that has been given specific content or definition in terms of the nature of the service involved. In this useage, the term program refers to any DELIVERY SYSTEM specified on one of the RCM DELIVERY SYSTEM WORKSHEETS A-1, 2, 3 OR 4. Examples of programs could include anything from a specific high school course or the personnel or business divisions of the district. The term program is also often used in the RCM to refer specifically to instructional programs included only on the RCM Worksheets A-1. These might include a class or course such as a self contained third grade classroom or basic English for grade nine.

PROGRAM UNIT: a single classroom, caseload or service unit as specificed in a DELIVERY SYSTEM. A unit of a self-contained classroom for primary grades one to three is simply a single classroom. A unit of speech therapy might be based on the caseload of one full time speech therapy specialist where the caseload represents the number of different students this full time staff person visits per week.

PROGRAM CATEGORY: an overall description of the types of students served or the subject matter orientation of a specific combination of instructional programs. Examples of program categories include regular elementary, regular secondary, special education, vocational education, compensatory education, bilingual education, and adult education.

RESOURCE COST INDEX OR ADJUSTMENT: an index reflecting the cost of providing a "homogenous" resource or service. The word homogenous implies that the resource or service possess the same nominal characteristics. For example, a cost index for teacher services would answer the question, "How much more or less would it cost different school districts to recruit and employ teachers with similar personal characteristics?" Synonyms for "COST INDEX' would include COMPONENT COST INDEX or RESOURCE COST INDEX.

RESOURCES: a term most often used in the RCM to refer to physical inputs of which DELIVERY SYSTEMS are composed. For example, resource inputs include personnel specified in amount of time (e.g., full-time-equivalents, hours per year, months per year, weeks per year) for teachers, administrators, custodians, secretaries, etc. and nonpersonnel items such as supplies, materials, capital equipment, building space, etc.

SERVICE: In its broadest usage, this term is synonymous with PROGRAM. In a more specific usage, the term service refers to those DELIVERY SYSTEMS which are not instructional in nature. This term is used most often to refer to the administrative and support services required for the provision of any combination of instructional programs. There are three types of administrative and support services presently built into the RCM. These include administrative and support services at the program, school, and district level.

APPENDIX C: SIMULATION PARAMETERS FOR TYPICAL STATE APPLICATION OF THE RCM

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	001	STATE	1	1=STATE APPLICATION, 0=LOCAL APPLICATION

This parameter designates whether the RCM is being used to support a state or local application of the RCM. The primary impact is to create an observation in the output dataset DISTOUT that summarizes state level cost and quantity information. Possible values are:

1= the RCM is being used to support the SFPM (the State Finance and Planning Model

0= if RCM is being used as Local Planning and Budgeting Model

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	002	CRBUDGET	0	1=PRODUCE PROGRAM BUDGET REPORTS,0=NO

This parameter designates whether or not the budget report dataset RCMOUT01(BUDQTY) is to be produced. This dataset reports cost by object code for each program or service by school and district. Possible values are:

1= Create Budget Report files,

0= Do not create Budget report files.

For STATE applications, this parameter would most likely be set to 0. For LOCAL applications, this parameter may be set to 0 or 1 depending on the level of detail desired in the output.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	003	UNITOBS	0	UNIT OF OBS: 1=DISTRICT, 0=SCHOOL

This parameter designates the unit of observation for the enrollment dataset DISTRAW(ENRINDX).

1= the unit of observation is a DISTRICT

0= the unit of observation is a SCHOOL.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	004	SUM_DIST	1	1=SUM SCH ENR TO DIST LEVEL, 0=NO

This parameter designates whether or not the RCM computer program should create a district level observation within the enrollment and service level dataset DISTRAW(ENRINDX). This district level observation will contain the sums of enrollments and program units. Possible values are:

1= a district level observation will be created by the RCM program

0= a district level observation already exists and no summation is required.

This parameter should be set to '0' if UNITOBS=1. If UNITOBS=0, then SUM_DIST may be set to '1' or '0' as described below.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	011	CASE_ID	123	CASE ID CODES:1=CO_ID,2=DIST_ID,3=SCH_ID

This parameter designates the combination of ID CODES used in the RCM input and output datasets to identify the observations. Possible combinations of values for this parameter are:1, 2, 3, 12, 13, 23, 123. These codes are defined as follows:

1=CO_ID (County ID),
2=DIST_ID (District ID),
3=SCH_ID (school ID).

The user may record any combination to identify the ID codes used in the input/output datasets.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	012	CASENAME	123	CASE NAMES: 1=COUNTY,2=DISTRICT,3=SCHOOL

This parameter designates the combination of NAMES used in the RCM input and output datasets to identify the observations. Possible combinations of values for this parameter are:1, 2, 3, 12, 13, 23, 123. These codes are defined as follows:

1=COUNTY NAME,
2=DISTRICT NAME,
3=SCHOOL NAME.

The user may record any combination to identify the NAMES used in the input/output datasets.

PARAMETERS FOR UTILIZATION OF WORKSHEETS:

The next three parameters allow the user the option of not using one or more of the ADMINISTRATION AND SUPPORT worksheets. At a minimum, the RCM computer program requires that the RCM Worksheet A-1 must be completed.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	021	WSA2COMP	1	1=RCM WRKSHT A-2 IS FILLED OUT, 0=NO

1= at least one RCM Worksheet A-2 has been filled out,
0= RCM Worksheet A-2 is not used.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	022	WSA3COMP	1	1=RCM WRKSHT A-3 IS FILLED OUT, 0=NO

1= at least one RCM Worksheet A-3 has been filled out,
0= RCM Worksheet A-3 is not used.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	023	WSA4COMP	1	1=RCM WRKSHT A-4 IS FILLED OUT, 0=NO

1= at least one RCM Worksheet A-4 has been filled out,
0= RCM Worksheet A-4 is not used.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

DETERMINATION OF THE NUMBER OF PROGRAM AND SERVICE UNITS:
The next parameters allow the user a series of options related to the way in which the program determines the number of program and service units that underlie the cost calculations in the RCM.

1 031 DOUNIT_I 0 1=USE ACTUAL PROG UNITS, 0=COMPUTE UNITS

This parameter designates whether ACTUAL or COMPUTED program or service units will be used to determine the costs of INSTRUCTIONAL PROGRAMS AND RELATED SERVICES specified on the RCM DELIVERY SYSTEM WORKSHEETS A-1.

1= ACTUAL no. of Program or service units are to be used to determine total resources for instructional programs & related services. These units are recorded in DISTRAW(ENRINDX).

0= no. of program and service units is COMPUTED within the RCM program and is based on enrollments recorded in DISTRAW(ENRINDX).

1 032 DOUNIT_S 0 1=USE ACTUAL SCH UNITS, 0=COMPUTE UNITS

This parameter designates whether ACTUAL or COMPUTED numbers of schools or school service units are used to determine the costs of SCHOOL ADMINISTRATION AND SUPPORT SERVICES specified on RCM DELIVERY SYSTEM WORKSHEET A-2.

1= actual no. of schools is used to determine sch admin & supp res.

0= no. of schools is determined within RCM simulation

1 033 DOIUMIN 1 1=USE MINIMUM UNITS REQUIRED, 0=NO

This parameter switches on and off the utilization of the MINIMUM UNITS REQUIRED parameter set on RCM DELIVERY SYSTEM WORKSHEET A-1. This parameter allows the user to eliminate programs from district budgets that do not enroll sufficient numbers of students to fully utilize program resources.

1= eliminate program units if they do not exceed the minimum required for funding.

0= place no restrictions on minimum program units for funding.

1 036 PROGUDF2 0.25 ROUNDING FACTOR FOR CASELOAD PROG UNITS

This parameter designates the rounding factor used for the computation of the number of program or service units for the Instructional Programs and Related Services specified on the RCM DELIVERY SYSTEM WORKSHEETS A-1. This rounding factor applies exclusively to programs or services specified as caseloads. If this number is set to 0.25, caseload units will be rounded to the nearest 0.25 units. (Programs or services specified on the A-1 Worksheet as classes or courses are costed out only in full units.)

2

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

ROUNDING FACTORS FOR RESOURCES:
The next eight parameters allow the user to set rounding factors for certain categories of resources. Unless these rounding factors are overriden in the RESOURCE LIST, they are used to round off resources specified on the RCM DELIVERY SYSTEM WORKSHEETS to the nearest prespecified values set below.

1	041	RNDF_FTE	0.20	DEFAULT ROUNDING FACTOR, FTE PERSONNEL

Rounding factors used for personnel specified in terms of Full-Time-Equivalents

1	042	RNDF_HRS	0.50	DEFAULT ROUNDING FACTOR, PERS HRS/YR

Rounding factors used for personnel specified in terms of Hours per year.

1	043	RNDF_DAY	0.50	DEFAULT ROUNDING FACTOR, PERS DAYS/YR

Rounding factors used for personnel specified in terms of Days per year.

1	044	RNDF_WKS	0.50	DEFAULT ROUNDING FACTOR, PERS WEEKS/YR

Rounding factors used for personnel specified in terms of weeks per year.

1	045	RNDF_MOS	0.50	DEFAULT ROUNDING FACTOR, PERS MOS./YR

Rounding factors used for personnel specified in terms of Months per year.

1	046	RNDF_PER	1.00	DEFAULT ROUNDING FACTOR, PERS STIPENDS

Rounding factors used for personnel specified in any other unit of measurement (e.g., stipends).

1	047	RNDF_OTH	1.00	DEFAULT ROUNDING FACTOR, $ OR QTY ITEMS

Rounding factors used for expenditure and quantity items

1	048	RNDF_SQF	100	DEFAULT ROUNDING FACTOR,SQ FT BLDG SPACE

Rounding factors used for building space.

RESOURCE COST ADJUSTMENTS

1	051	DOINDEX	1	1=USE RESOURCE COST INDICES, 0=NO

This parameter allows the user to include the resource cost indices in the simulation run. These indices are stored in DISTRAW(ENRINDX) and are primarily used in STATE level applications (i.e., SFPM). For local applications DOINDEX is generally set to '0'.

1= resource cost indices ARE to be used in the simulation run
0= resource cost indices ARE NOT used in the simulation run.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

SETTING THE COSTS OF CAPITAL

The next parameters provide a way for the user to adjust the assumptions on which capital cost calculations are based.

1 061 DOCAPADJ 0 1=ADJ CAPTL FOR ACTUAL UTILIZATION ,0=NO

This parameter allows the user to switch on and off the adjustment of allocations of capital resources to reflect the actual number of program units sharing facilities within a school or district. This parameter is used in conjunction with the cell labeled "CAPITAL ADJUSTMENT" on the RCM DELIVERY SYSTEM WORKSHEET A-1.

1=adjust capital equipment allocation to reflect actual number of program units sharing facilities within the school or district.

0=make no adjustment in capital equipment allocation for sharing.

1 062 REPL_DEF 0.0 DEFAULT VALUE, CAPITAL REPLACEMENT RATE

This parameter allows the user to set the default value for annual replacement rate (due to damage or loss) for capital equipment. This default value is used only if no specific value has been assigned in the Resource List, i.e., RCM831(RESLIST).

1 063 LIFE_DEF 7 DEFAULT VALUE, CAPITAL YEARS OF LIFE

This parameter allows the user to set the default value for the life of capital equipment. This default value is used only if no specific value has been assigned in the Resource List, i.e., RCM831(RESLIST).

ADJUSTMENTS FOR VARIATIONS IN TEACHER COURSELOADS:

The following two parameters are used in conjunction to allow the user to adjust teacher time allocations to reflect differences in course load policies across local districts. It is also used in conjunction with the variable CRSLD which is included among the variables in the enrollment dataset DISTRAW(ENRINDX). These parameters and the corresponding variable are used exclusively when the RCM is being used to support the STATE level model (i.e., the SFPM).

1 071 CRSLDPAR 5 TCHR COURSE LOAD IN DEPT COURSES,A-1

This parameter designates the course load assumed for teaching personnel in departmentalized courses specified on the RCM DELIVERY SYSTEM WORKSHEET A-1. A value of 5 means teachers are responsible for five annual courses per year.

1 072 DOCRSLD 0 1=ADJ FOR DIFF CRSLD POLICIES, 0=NO

This parameter simply switches on and off the courseload adjustment.

1= teacher & aide time IS to be adjusted for different course load policies across districts,

0= teacher & aide time IS NOT adjusted for different course load policies.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
				INFLATIONARY ADJUSTMENTS FOR RESOURCE COSTS:
				The following series of parameters allow the user to include inflationary adjustments in the unit prices of various classes of resources.
1	081	INFLCERT	0	INFLATIONARY ADJ, CERTIFIED SALARIES
				Inflation rate for certified salaries.
1	082	INFLCLSF	0	INFLATIONARY ADJ, CLASSIFIED SALARIES
				Inflation rate for classified personnel salaries
1	083	INFLEXPD	0	INFLATIONARY ADJ, EXPENDABLE ITEMS
				Inflation rate for expendable items (e.g., supplies, services)
1	084	INFLENGY	0	INFLATIONARY ADJ, ENERGY RESOURCES
				Inflation rate for energy services.
1	085	INFLCPTL	0	INFLATIONARY ADJ, CAPITAL RESOURCES
				Inflation rate for capital resources
				IDENTIFICATION OF THE RESOURCE LIST
1	091	RESL_NO	0	
				This parameter allows the user to designate which of a variety of alternative RESOURCE LISTS are to be used in the simulation run. Possible values include 0, 1, or 2 to identify the specific RESOURCE LIST dataset (i.e., RESLIST0, RESLIST1, or RESLIST2) that may be stored in the RCM data library DISTRAW.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

UTILIZATION OF THE EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE:
The following parameters determine whether or not and the way in which the EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION file will be utilized within the RCM simulation run. This file is primarily utilized in LOCAL applications of the RCM, although there may be circumstances in which it may be of value in STATE applications as well.

1 101 CRPERC 0 1=CREATE ASGNFILE (EXEC CRPERC), 0=NO

This parameter allows the user to switch on and off the creation of the EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE, i.e., DISTRAW(ASGNFILE).

1= Read and save the ASSIGNMENT FILE for use in the simulation.
0= Do not create the ASSIGNMENT FILE for use in the simulation.

1 102 USESCHED . 1=USE SAL SCHED,0=SALARY ON ASGNFILE

This parameter is only used when CRPERC is set to '1' (i.e., when the ASSIGNMENT FILE is being utilized. It allows the user to designate the source of salary information for personnel.

1= Use the salary schedule file, i.e., DISTRAW(SALSCHED) as the source for personnel salary information.
0= Use pre-existing salary data included in the ASSIGNMENT FILE as the source for personnel salary information.

1 103 ADD_PERC 0 SOURCE OF PERS COST:1=ASGNFILE,0=RESLIST

This parameter allows the user to determine whether the ASSIGNMENT FILE or the RESOURCE LIST should be used as the basis for the calculation of personnel salary and benefit costs.

1= Use the ASSIGNMENT FILE, i.e., DISTRAW(ENRINDX) as the basis for personnel costs calculations.
0= Use the RESOURCE LIST, DISTRAW(RESLISTi) as the basis for personnel cost calculations.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

The next four parameters allow the user to determine the variables used to sort and match the personnel salary and benefit data derived from the ASSIGNMENT FILE to the RCM DELIVERY SYSTEM WORKSHEETS A-1, 2, 3, and 4. Personnel salaries and benefits may be matched by OBJECT CODES or by OBJECT CODES within CATEGORY and/or SERVICE CODES. If the user desires salaries and benefits to be calculated at the finest level of detail, then these files should be sorted by CATEGORY, SERVICE as well as OBJECT CODES. This would have the effect, for example, of computing average teacher salaries and benefits by program. If simply average teacher salaries and benefits is desired with regard to the program in which a teacher serves, then the personnel cost datasets should be sorted and matched by OBJECT CODES alone.

1 111 BYCODEP1 0 A-1 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-1.

0= personnel costs are calculated by OBJECT CODES (i.e., IRESCODE IRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., PASCCODE IRESCODE IRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., PASCCODE IRS_CODE IRESCODE IRESUNIT)

1 112 BYCODEP2 0 A-2 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-2.

0= personnel costs are calculated by OBJECT CODES (i.e., SRESCODE SRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., SASCCODE SRESCODE SRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., SASCCODE SASSCODE SRESCODE SRESUNIT)

1 113 BYCODEP3 0 A-3 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-3.

0= personnel costs are calculated by OBJECT CODES (i.e., PRESCODE PRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., PASCCODE PRESCODE PRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., PASCCODE PASSCODE PRESCODE PRESUNIT)

1 114 BYCODEP4 0 A-4 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-4.

0= personnel costs are calculated by OBJECT CODES (i.e., DRESCODE DRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., DASCCODE DRESCODE DRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., DASCCODE DASSCODE DRESCODE DRESUNIT)

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
		PRINT PARAMETERS		
1	191	LEN_NAME	20	LENGTH OF CASE NAME IN PRINT PROGRAMS Number of columns desired to print the county, district, and school names in the print programs.
1	192	OBS_LIST	0	1=PRINT SUBSET OF OBSERVATIONS, 0=PRINT ALL OBS This parameter allows the user to subset the list of districts to be included in the RCM output reports. 1= the list of observations to be printed is to be subset and the subset list of district ID codes is in RCMRAwyy(OBS_LIST). 0= the full list of observations is to be printed.
1	193	PR_DIST	1	1=PRINTS DISTRICT TOTALS ONLY, 0=PRINT ALL OBS This parameter allows the user to print only the district totals in the RCM output reports. This parameter applies only when UNITOBS=0. 1= print only the observations containing the district totals in the RCM report datasets to be stored in RCMOUTzz. 0= print both school and district observations in the RCM reports.
		ADJUSTMENT OF PROGRAM AND SERVICE UNIT SIZES		
1	500	DCLSSZ	0	PROPORTIONATE CHANGE IN CLASS SIZES, ALL PROGRAMS the proportionate change in class sizes across all programs desired for this simulation.
1	600	DAIDES	0	PROPORTIONATE CHANGE IN AIDE TIME, ALL PROGRAMS the proportionate change in the allocation of aide time across all program categories for this simulation.
1	700	DSCHSZ	0	PROPORTIONATE CHANGE IN SCHOOL SIZE, ALL SCH TYPES the proportionate change in school size desired for this simulation

APPENDIX B: SAMPLE COMMAND PROGRAM USING WYLBUR TO RUN THE RCM PROGRAM

```
  1.      CONM EXEC FILE to run the RCM Simulation.
  2.      CONM This program was created on 11/15/84
  3.      CLEAR VARIABLES
101.      ¡Find out if user would like to clear active file.
102.      CONM
103.      IF (LINES NE 0) READ STRING 50 UPP PRO 'OK TO CLEAR ACTIVE? (YES/NO) '
104.      IF (INDEX ('YES',50) EQ 1) THEN EXEC 108
106.      IF (INDEX ('NO',50) EQ 1) CLR EXEC
108.      CLR ACTIVE
109.      CLR VARIABLES
110.      SET ESCAPE=&
200.      ¡Determine whether user would like detailed instructions before running
201.      ¡the model.
211.      CONM
211.01    CONM Do you want to review the RCM database required to run the program?
212.      READ STRING 50 UPP PRO '(YES/NO)? '
213.      IF (INDEX ('YES',50) EQ 1) EXEC NEXT
214.      ELSE EXEC START=251
215.      CONM
216.      CONM The following is a list of fixed block partitioned datasets and members
217.      CONM that are necessay to run the RCM simulation.  Please review this list
218.      CONM to make sure that you have created each the necessary datasets.
219.      CONM
220.      CONM LIST OF DATASETS:
221.      CONM ____________________________________________________________________
222.      CONM Have you created all of the following raw files necessary to run the
223.      CONM RCM simulation?
224.      CONM LIBRARIES      LRECL    MEMBER FILES
225.      CONM RCMRAwyy       133       WSA1, WSA2, WSA3, WSA4,
225.1     CONM                          SIMPAR, COMPEWRD, SUBSET (OPTIONAL)
226.      CONM DISTRAw        133       ENRINDS, RESLISTi (0,1,2),
227.      CONM                          ASSNFILE (OPTIONAL), BENEFITS (OPTIONAL),
228.      CONM                          SALSCHED (OPTIONAL)
229.      CONM
230.      READ STRING 50 UPP PRO 'Have these datasets been created (YES/NO)? '
231.      IF (INDEX ('YES',50) EQ 1) EXEC 251
232.      IF (INDEX ('NO',50) EQ 1) EXEC 233
233.      CONM Create or edit these datasets necessary for the simulation run and then
234.      CONM type RUNRCM again to reenter this EXEC file.
235.      EXEC 539
251.      ¡Check whether user would like to run RCM UTILITY PROGRAMS
252.      CONM
253.      CONM Would you like to run one of the RCM UTILITY PROGRAMS?
254.      READ STRING 50 UPP PRO '(YES/NO)? '
255.      IF (INDEX ('NO',50) EQ 1) EXEC 301
256.      IF (INDEX ('YES',50) EQ 1) EXEC NEXT
256.01    CONM
257.      CONM Which of the following UTILITY PROGRAMS would you like to run?
258.      CONM    A. ENEWAFI (Creates a model for the ENRINDS file)
259.      CONM    B. ENEWS   (Creates WORKSHEETS for ENROLLMENT AND SERVICE
260.      CONM                LEVEL data).
261.      CONM    C. PREWRS12 (Prints ENROLLMENT data from ENRINDS and compares
```

```
262.      CO/MM                    programs and services against those in
263.      CO/MM                    WSA1,2,3,4
264.      CO/MM    B. PRLISTS (Prints lists of programs and services from
265.      CO/MM                    WSA1,2,3,4)
266.      READ STRING $0 UPP PRO '(Select A, B, C, or D): '
267.      IF (INDEX ('A',$0) EQ 1) THEN USE RCM852#CRENRF1
268.      IF (INDEX ('B',$0) EQ 1) THEN USE RCM852#ENRWS
269.      IF (INDEX ('C',$0) EQ 1) THEN USE RCM852#PRENRSIZ
270.      IF (INDEX ('D',$0) EQ 1) THEN USE RCM852#PRLISTS
270.01    CH 1 TO '00' NOLIST
271.      BUMP ACCOUNT ;Bumps Account number to last line
272.      CH 'ACCT' IN 1/L-1 USING L COL 1/6 REPEAT NOLIST
273.      DELETE LAST ;deletes the account number in the last line
273.01    CO/MM
274.      CO/MM Enter the simulation sequence number (i.e., the value of zz in RCMSASzz
275.      CO/MM and in RCMOUTzz).
276.      READ STRING $1 UPP PRO 'SIMULATION SEQ. NO. (01-99) zz= '
277.      CH 'zz' TO '&$0' NOLIST  ;Set Simulation Sequence no.
278.      CO/MM
279.      CO/MM Enter the sequence number corresponding to the raw data file
280.      CO/MM (RCMRAWyy) to be used for this simulation.
281.      CO/MM
282.      READ STRING $0 UPP PRO 'SEQ. NO. for RCMRAWyy (01-99), yy = '
283.      CO/MM
284.      CH 'yy' TO '&$0' NOLIST
285.      CO/MM
291.      EXEC $20
301.      ;Use the RCM simulation program and begin making changes in setup
302.      ;to determine whether to run the entire simulation including
303.      ;district and school output or only summary output.  Also determine
304.      ;the identification for the district input and output files.
305.      USE RCM852#RCM CLR
311.      CO/MM Enter the simulation sequence number (i.e., the value of zz in RCMSASzz
311.01    CO/MM and in RCMOUTzz).
312.      CO/MM
313.      READ STRING $0 UPP PRO 'SIMULATION SEQ. NO. (01-99), zz= '
314.      CH 'zz' TO '&$0' NOLIST  ;Set Simulation Sequence no.
315.      CO/MM
315.01    CO/MM Are the output datasets RCMSAS&$0 and RCMOUT&$0 already stored
315.02    CO/MM on disk?
316.      READ STRING $1 UPP PRO '(YES/NO)? '
317.      IF (INDEX ('YES',$1) EQ 1) DELETE '01' 1/2 ;Delete STEP 01. %LLOCATE RCMSASzz
321.      CO/MM
322.      CO/MM Enter the sequence number corresponding to the raw data file
323.      CO/MM (RCMRAWyy) to be used for this simulation.
324.      CO/MM
325.      READ STRING $0 UPP PRO 'SEQ. NO. for RCMRAWyy (01-99), yy = '
326.      CO/MM
327.      CH 'yy' TO '&$0' NOLIST
331.      CO/MM
332.      CO/MM Do you want DISTRICT/SCHOOL OUTPUT or only SUMMARY COST DATA?
```

```
333.      COMM
334.      READ STRING SO UPP PRO '(RETURN=DISTRICT/SCHOOL OUTPUT, S=SUMMARY COST DATA):
335.        IF (SO EQ '') THEN EXEC 340.01    ;User wants DISTRICT/SCHOOL OUTPUT
336.        IF (INDEX ('DISTRICT',SO) EQ 1) THEN EXEC 340.01
337.      IF (INDEX ('SUMMARY',SO) EQ 1) THEN EXEC 341
340.01    COMM What SAS REGION (in Kilobytes) is required to run the simulation?
340.02    READ STRING SO PRO 'SASRGN (RETURN=1000) = '
340.03    COMM
340.04    COMM What LEAVE (in kilobytes )parameter needs to be set for the simulation?
340.05    READ STRING S1 PRO 'LEAVE (RETURN=175) = '
340.06    COMM
340.07    IF (SO EQ '') CH 'SASRGN=K' TO 'SASRGN=1000K' NOLIST
340.08    IF (SO NE '') CH 'SASRGN=K' TO 'SASRGN=&SOK' NOLIST
340.09    IF (S1 EQ '') CH 'LEAVE=K' TO 'LEAVE=175K' NOLIST
340.1     IF (S1 NE '') CH 'LEAVE=K' TO 'LEAVE=&S1K' NOLIST
340.11    EXEC 351
341.02      D '09' 1/2    ;Delete STEP 09.  RCM852(CRDIN)
341.03      D '10' 1/2    ;Delete STEP 10.  RCM852(SM)
341.04      D '11' 1/2    ;Delete STEP 11.  RCM852(PRRAWOUT)
341.041      D '12' 1/2    ;Delete STEP 12.  RCM852(PRBUDGET)
341.05      EXEC 400
351.      COMM
352.      COMM Enter the information necessary to identify the INPUT DISTRICT DATABASE
353.      COMM (i.e., DISTDATA.vvYwwww.SASxx) to be used for this simulation.
354.      COMM
355.      READ STRING SO UPP PRO 'SEQUENCE NO. FOR DISTRICT DATABASE (01-99), xx= '
356.      COMM
357.      READ STRING S1 UPP PRO '2-Character AGENCY ID CODE: vv = '
358.      COMM
359.      READ STRING S2 UPP PRO 'SCHOOL YEAR for this simulation (e.g., 8384), wwww = '
360.      CH 'xx' TO '&SO' NOLIST
361.      CH 'vv' TO '&S1' NOLIST
362.      CH 'wwww' TO '&S2' NOLIST
363.      COMM
364.      READ STR S3 UPP PRO 'Is DISTDATA.&S1Y&S2.&SO already stored on disk (YES/NO)?
365.        IF (INDEX ('YES',S3) EQ 1) THEN EXEC NEXT
366.        ELSE EXEC 371
366.001    CH '*DISTSASO' TO 'DISTSASO' IN 'DISP=OLD' NOLIST
366.002    CH '//DISTSASO' TO '//*DISTSASO' IN 'DISP=(NEW' NOLIST
366.003    CH '//' TO '//*' IN 'UNIT=DISK' IN 100/L NOLIST
366.01    COMM
366.02    COMM Are you revising any of the data contained in DISTDATA.&S1Y&S2.&SO?
366.03    COMM
366.04    READ STRING S4 UPP PRO '(YES/NO)? '
366.08    IF (INDEX ('NO',S4) EQ 1) THEN DELETE '09' 1/2
366.09    IF (INDEX ('NO',S4) EQ 1) THEN EXEC 400
371.      COMM What source file are you using to create the DISTRICT DATABASE
372.      COMM (i.e., DISTDATA.&S1Y&S2.&SO) for this simulation?
373.01    COMM Options:
373.02    COMM A.  Raw database, DISTRAW(ENRINGX).
373.021
```

```
373.03   COMM B. A previously created SAS database (i.e., DISTDATA.&SIY&&&&.SAS11)
373.04   COMM    will be used as input.
373.05   COMM
373.06   READ STRING $5 UPP PRO '(A=RAW DATABASE, B=SAS DATABASE): '
373.07   COMM
375.       IF (INDEX ('A',$5) EQ 1) THEN CH 'CRDINrrr' TO 'CRDINRAW' NOLIST
376.       IF (INDEX ('A',$5) EQ 1) THEN CH '//DISTSAS1' TO '//*DISTSAS1' NOLIST
377.       IF (INDEX ('B',$5) EQ 1) THEN CH 'CRDINrrr' TO 'CRDINSAS' NOLIST
377.01     IF (INDEX ('B',$5) EQ 1) THEN CH '//DISTRAW1' TO '//*DISTRAW1' NOLIST
378.       IF (INDEX ('B',$5) EQ 1) THEN EXEC 381
379.       IF (INDEX ('A',$5) EQ 1) THEN EXEC 391
381.     COMM Enter the SEQUENCE NUMBER and SCHOOL YEAR used for the SOURCE FILE
382.     COMM for the district database (i.e., DISTDATA.&SIY&&&&.SAS11).
383.     READ STRING $0 UPP PRO 'SEQ. NO. for SOURCE FILE (01-99), ii= '
384.     READ STRING $1 UPP PRO 'SCH YR for SOURCE FILE (e.g., 8384), &&&&= '
385.     CH 'ii' TO '&$0' NOLIST
386.     CH '&&&&' TO '&$1' NOLIST
387.     COMM
401.     BUMP ACCOUNT
402.     CH 'ACCT' IN 1/L-1 USING L COL 1/6 REPEAT  NOLIST
403.     DELETE LAST
404.     COMM
405.     COMM Do you want to run all STEPS in the RCM simulation program?
406.     COMM
407.     READ STRING $0 UPP PRO '(YES/NO): '
408.     COMM
409.     IF (INDEX ('YES',$0) EQ 1) THEN EXEC $00
410.     IF (INDEX ('NO',$0) EQ 1)  THEN EXEC NEXT
411.     COMM The RCM simulation program includes the following STEPS:
411.01   SET HEIGHT 0
412.     LIST '*STEP '
413.     COMM
414.     COMM Designate below which STEPS you wish to EXCLUDE from this run.
415.     COMM You will be prompted for each step you wish to exclude.
416.     COMM Note that Step 03 will not be eliminated as it contains formats
417.     COMM used in most of the other Steps of the RCM simulation.
417.01   COMM HIT RETURN WHEN DONE.
418.     COMM
418.01   SET HEIGHT 15
419.     READ STRING $1 UPP PRO 'First step to EXCLUDE = '
420.     IF ($1 EQ '') EXEC $00
421.     IF ($1 NE '03') D '&$1' 1/2
422.     READ STRING $1 UPP PRO 'Second step to EXCLUDE = '
423.     IF ($1 EQ '') EXEC $00
424.     IF ($1 NE '03') D '&$1' 1/2
425.     READ STRING $1 UPP PRO 'Third step to EXCLUDE = '
426.     IF ($1 EQ '') EXEC $00
427.     IF ($1 NE '03') D '&$1' 1/2
428.     READ STRING $1 UPP PRO 'Fourth step to EXCLUDE = '
429.     IF ($1 EQ '') EXEC $00
430.     IF ($1 NE '03') D '&$1' 1/2
```

```
431.     READ STRING $1 UPP PRO 'Fifth step to EXCLUDE = '
432.     IF ($1 EQ '') EXEC $00
433.     IF ($1 NE '03') D '&$1' 1/2
434.     READ STRING $1 UPP PRO 'Sixth step to EXCLUDE = '
435.     IF ($1 EQ '') EXEC $00
436.     IF ($1 NE '03') D '&$1' 1/2
437.     READ STRING $1 UPP PRO 'Seventh step to EXCLUDE = '
438.     IF ($1 EQ '') EXEC $00
439.     IF ($1 NE '03') D '&$1' 1/2
440.     READ STRING $1 UPP PRO 'Eighth step to EXCLUDE = '
441.     IF ($1 EQ '') EXEC $00
442.     IF ($1 NE '03') D '&$1' 1/2
$01.     COMM
$02.     COMM Do you want source statements printed for this run?
$03.     READ STRING $6 UPP PRO '(YES/NO)? '
$04.     IF (INDEX ('YES',$6) EQ 1) THEN CH '^OPTIONS MACRO' TO 'OPTIONS MACRO' NOLIST
$05.     IF (INDEX ('YES',$6) EQ 1) THEN CH 'OPTIONS NOSOURCE' TO '^OPTIONS NOSOURCE' NC
$06.     COMM
$07.     COMM
$20.     READ STRING $2 UPP PRO 'Do you want this job to run CLASS=L (Y/N)? '
$21.     COMM
$22.     IF (INDEX ('YES',$2) EQ 1) SET VALUE $2 ='CLASS=L'
$23.     IF (INDEX ('NO',$2) EQ 1) SET VALUE $2 =' '
$24.     COMM In what time BLOCK do you want this job to run?
$25.     READ STRING $3 UPP PRO 'RETURN=CURRENT,E=EVENING,N=NIGHT): BLOCK = '
$26.     COMM
$27.     IF ($3 EQ 'N') SET VALUE $3 ='BLOCK=NIGHT'
$28.     IF ($3 EQ 'E') SET VALUE $3 ='BLOCK=EVENING'
$29.     IF ($3 EQ '') SET VALUE $3=' '
$30.     CH 1/2 TO '' NOLIST
$31.     READ STRING $4 UPP PRO 'RUN? (YES/NO) '
$32.     IF (INDEX ('YES',$4) EQ 1) THEN EXEC $34
$33.     IF (INDEX ('NO',$4) EQ 1) THEN EXEC $35
$34.     RUN HOLD &$2 &$3
$34.01   READ STRING $9 UPP USING=1 COL=3/10
$34.02   IF (INDEX ('RCM',$9) EQ 1) EXEC $34.99
$34.03   IF (INDEX ('RCM',$9) NE 1) EXEC NEXT
$34.04   COMM Would you like to run another one of the UTILITY PROGRAMS?
$34.05   READ STRING $0 UPP PRO '(YES/NO)? '
$34.06   IF (INDEX ('YES',$9) EQ 1) CLR TEXT
$34.07   IF (INDEX ('YES',$9) EQ 1) EXEC 257
$34.08   IF (INDEX ('NO',$9) EQ 1) EXEC $38
$34.99   EXEC $38
$35.     COMM
$36.     COMM Job is in your active file ready to run
$37.     COMM
$38.     CLR VALUES EXEC
$40.     CLR EXEC
```

APPENDIX E: SAMPLE COPY OF RCM JCL FROM STANFORD COMPUTER SYSTEM, IBM 3084

```
00//RCM$zz JOB (,,15,200),'SIM. SEQ. NO.=zz'
00//*TO USE THIS PROGRAM, MAKE THE FOLLOWING CHANGES:
00//*  CHECK TO MAKE SURE THE COMPUTER ACCOUNT NUMBER IS CORRECT.
00//*  CHANGE 'zz' TO THE APPROPRIATE SIMULATION SEQUENCE NUBMER.
00//*  CHANGE 'yy' TO DESIGNATE THE APPROPRIATE RCMRAWyy SEQUENCE NUMBER.
00//*  CHANGE 'xx' TO THE APPROPRIATE DISTRICT INPUT SEQUENCE NUMBER.
01//*****************************************************************
01//* STEP 01. ALLOCATE SPACE FOR RCMSASzz.
01//*THIS FIRST PORTION OF THE JOB ALLOCATES SPACE FOR RCMSASzz.
01//*IF RCMSASzz HAS ALREADY BEEN CREATED, THEN DELETE STEP 01.
01//ALLOC  EXEC PGM=IEFBR14
01//ALLOCSAS DD DSN=WYL.ACCT.RCMSASzz,DISP=(NEW,CATLG),
01//  UNIT=DISK,VOL=SER=PUB032,SPACE=(6144,(3000,200))
01//ALLOCRAW DD DSN=WYL.ACCT.RCMOUTzz,DISP=(NEW,CATLG),
01//  UNIT=DISK,VOL=SER=PUB032,SPACE=(6251,(750,150,25)),
01//  DCB=(RECFM=FB,LRECL=133,BLKSIZE=6251)
01//*1500 ALLOC=215 TRACKS
02//*****************************************************************
02//* STEP 02. RCM851(PARAM): READ,SAVE AND PRINT SIMULATION PARAMETERS.
02//PARAM EXEC SAS
02//SASINOUT DD DSN=WYL.ACCT.RCMSASzz,DISP=OLD
02//RAWINOUT DD DSN=WYL.ACCT.RCMRAWyy,DISP=SHR
02//RCMOUT DD DSN=WYL.ACCT.RCMOUTzz,DISP=OLD
02//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
02%INCLUDE RCMIN(COPYRGHT);
02*STEP 02. RCM851(PARAM): READ,SAVE & PRINT SIMULATION PARAMETERS.
02OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
02%INCLUDE RCMIN(PARAM);
02
03//*****************************************************************
03//* STEP 03. RCM851(UNITFMT): READ IN FORMATS FOR UNITS OF MEASUREMENT.
03//UNITFMT EXEC SAS
03//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
03%INCLUDE RCMIN(COPYRGHT);
03*STEP 03. RCM851(UNITFMT): READ & SAVE RCM FORMATS.
03OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
03%INCLUDE RCMIN(UNITFMT);
03
04//*****************************************************************
04//* STEP 04. RCM851(CRRES): READ,SAVE AND PRINT THE RESOURCE LIST.
04//CRRES EXEC SAS
04//SASINOUT DD DSN=WYL.ACCT.RCMSASzz,DISP=OLD
04//RAWINOUT DD DSN=WYL.ACCT.RCMRAWyy,DISP=OLD
04//RCMOUT DD DSN=WYL.ACCT.RCMOUTzz,DISP=OLD
04//DISTRAW DD DSN=WYL.ACCT.DISTRAW,DISP=SHR
04//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
04%INCLUDE RCMIN(COPYRGHT);
04*STEP 04. RCM851(CRRES): READ,SAVE AND PRINT THE RESOURCE LIST.;
04OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
04%INCLUDE RCMIN(CRRES);
04
05//*****************************************************************
05//* STEP 05. RCM851(CRPERC): READ,SAVE AND PRINT THE PERSONNEL ASSIGNME
05//CRPERC EXEC SAS
05//DISTRAW DD DSN=WYL.ACCT.DISTRAW,DISP=SHR
05//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
05//SASINOUT DD DSN=WYL.ACCT.RCMSASzz,DISP=OLD
05%INCLUDE RCMIN(COPYRGHT);
05*STEP 05. RCM851(CRPERC): READ,SAVE & PRINT THE ASSIGNMENT FILE
05OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
```

```
05%INCLUDE RCMIN(CRPERC);
05
06//*****************************************************************************
06//* STEP 06. RCM851(WSA1): READ,SAVE AND PRINT RCM WORKSHEET A-1.
06//WSA1 EXEC SAS
06//SASINOUT DD DSN=WYL.ACCT.RCMSASzz,DISP=OLD
06//RAWINOUT DD DSN=WYL.ACCT.RCMRAWyy,DISP=OLD
06//RCMOUT DD DSN=WYL.ACCT.RCMOUTzz,DISP=OLD
06//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
06%INCLUDE RCMIN(COPYRGHT);
06*STEP 06. RCM851(WSA1): READ,SAVE AND PRINT RCM WORKSHEET A-1. ;
06OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
06%INCLUDE RCMIN(WSA1);
06
07//*****************************************************************************
07//* STEP 07. RCM851(WSAS): READ,SAVE AND PRINT RCM WORKSHEETS A-2,3,4.
07//WSAS EXEC SAS
07//SASINOUT DD DSN=WYL.ACCT.RCMSASzz,DISP=OLD
07//RAWINOUT DD DSN=WYL.ACCT.RCMRAWyy,DISP=OLD
07//RCMOUT DD DSN=WYL.ACCT.RCMOUTzz,DISP=OLD
07//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
07%INCLUDE RCMIN(COPYRGHT);
07*STEP 07. RCM851(WSAS): READ,SAVE AND PRINT RCM WORKSHEETS A-2,3,4.
07OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
07%INCLUDE RCMIN(WSAS);
07
08//*****************************************************************************
08//* STEP 08. RCM851(VARL): CREATE VARIABLE LISTS, LABELS, AND PRINT LISTS
08//VARL EXEC SAS
08//SASINOUT DD DSN=WYL.ACCT.RCMSASzz,DISP=OLD
08//RAWINOUT DD DSN=WYL.ACCT.RCMRAWyy,DISP=OLD
08//RCMOUT DD DSN=WYL.ACCT.RCMOUTzz,DISP=OLD
08//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
08
08*STEP 08. RCM851(VARL): CREATE VARIABLE LISTS AND  LABELS.
08OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
08%INCLUDE RCMIN(VARL);
08
09//*****************************************************************************
09//* STEP 09. RCM851(CRDIN): CREATE THE DISTRICT INPUT DATABASE FOR THE RC
09//CRDINrrr EXEC SAS
09//SASINOUT DD DSN=WYL.ACCT.RCMSASzz,DISP=OLD
09//RAWINOUT DD DSN=WYL.ACCT.RCMRAWyy,DISP=SHR
09//RCMOUT DD DSN=WYL.ACCT.RCMOUTzz,DISP=OLD
09//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
09//*SELECT THE APPROPRIATE DD STATEMENT BELOW DEPENDING ON WHETHER THE
09//*DISTRICT DATASET HAS ALREADY BEEN CREATED OR NOT.
09//DISTSASI DD DSN=WYL.ACCT.DISTDATA.vvYkkkk.SASii,DISP=SHR
09//DISTRAWI DD DSN=WYL.ACCT.DISTRAW,DISP=SHR
09//*SELECT THE DD STATEMENT BELOW IF DISTDATA IS TO BE CREATED IN THIS
09//*RUN.
09//DISTSASO DD DSN=WYL.ACCT.DISTDATA.vvYwwww.SASxx,DISP=(NEW,CATLG),
09//  UNIT=DISK,VOL=SER=PUB032,SPACE=(TRK,(20,09),RLSE)
09//*SELECT THE DD STATEMENT BELOW IF DISTDATA ALREADY EXISTS.
09//*DISTSASO DD DSN=WYL.ACCT.DISTDATA.vvYwwww.SASxx,DISP=OLD
09%INCLUDE RCMIN(COPYRGHT);
09*STEP 09. RCM851(CRDIN): CREATE THE DISTRICT INPUT DATABASE.
09*OPTIONS MACROGEN MLOGIC SYMBOLGEN ;
09OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
09%INCLUDE RCMIN(CRDINrrr);
```

```
09
10//*****************************************************************************
10//* STEP 10. RCM851(SM): CREATE SUMMARY AND DISTRICT COST DATA FOR RCM.
10//SM EXEC SAS,SASRGN=K,OPTIONS='LEAVE=K'
10//RAWINOUT DD DSN=WYL.ACCT.RCMRAWyy,DISP=OLD
10//RCMOUT DD DSN=WYL.ACCT.RCMOUTzz,DISP=OLD
10//SASINOUT DD DSN=WYL.ACCT.RCMSASzz,DISP=OLD
10//DISTIN DD DSN=WYL.ACCT.DISTDATA.vvYwwww.SASxx,DISP=SHR
10//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
10//*SIMULATION MODEL PROGRAM FOR TEST SIMULATION 01
10%INCLUDE RCMIN(COPYRGHT);
10*STEP 10. RCM851(SM): THE RCM SIMULATION PROGRAM.
10*OPTIONS MACROGEN MLOGIC SYMBOLGEN;
10OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
10%INCLUDE RCMIN(SM);
10
11//*****************************************************************************
11//* STEP 11. RCM851(PRRAWOUT): PRINT DISTRICT OUTPUT FOR RCM.
11//PRRAWOUT EXEC SAS
11//SASINOUT DD DSN=WYL.ACCT.RCMSASzz,DISP=OLD
11//RAWINOUT DD DSN=WYL.ACCT.RCMRAWyy,DISP=SHR
11//RCMOUT DD DSN=WYL.ACCT.RCMOUTzz,DISP=OLD
11//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
11%INCLUDE RCMIN(COPYRGHT);
11*STEP 11. RCM851(PRRAWOUT): PRINT DISTRICT OUTPUT FOR RCM. ;
11OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
11%INCLUDE RCMIN(PRRAWOUT);
12//*****************************************************************************
12//* STEP 12. RCM851(PRBUDGET): PRINT DISTRICT OUTPUT FOR RCM.
12//PRBUDGET EXEC SAS
12//SASINOUT DD DSN=WYL.ACCT.RCMSASzz,DISP=OLD
12//RAWINOUT DD DSN=WYL.ACCT.RCMRAWyy,DISP=SHR
12//RCMOUT DD DSN=WYL.ACCT.RCMOUTzz,DISP=OLD
12//RCMIN DD DSN=WYL.KD.PXJ.RCM851,DISP=SHR
12%INCLUDE RCMIN(COPYRGHT);
12*STEP 12. RCM851(PRBUDGET): PRINT DISTRICT OUTPUT FOR RCM. ;
12OPTIONS NOSOURCE;  %LET SIMSEQN=zz;
12%INCLUDE RCMIN(PRBUDGET);
```

RCM WORKSHEET A - 1

INSTRUCTIONAL PROGRAMS OR STUDENT SERVICES

HEADER FOR THE PROGRAM CATEGORY

Rec Type		DESCRIPTION	CATEGORY CODE	PROGRAM NAME
0	PROGRAM CATEGORY....			

RCM WORKSHEET A - 1

INSTRUCTIONAL PROGRAMS OR STUDENT SERVICES

Rec Type		PROGRAM DESCRIPTION	CATEGORY CODE	PROGRAM CODE	PROGRAM NAME SCH CAT CODE	
1	PROGRAM.....					

		UNITS OF MEASURE*	MINIMUM	TARGET OR CASELOAD	MAXIMUM	MINIMUM NO. SEC. REQD.	CAPITA ADJUSTMENT
2	PROGRAM SIZE.....					1	No

	RESOURCE REQUIREMENTS: DESCRIPTION	OBJECT CODE	UNITS OF MEASURE**	MINIMUM	TARGET OR CASELOAD	MAXIMUM	UNIT COST	FOR CAPITAL RES YRS OF LIFE	REPLCMNT RATE	SECTIONS SHARING CAPITAL
3										
4										
5										
6										
7										
8										
9										
10										

*UNITS OF MEASURE FOR PROGRAM SIZE:

1=# of Pupils
2=FTE Teachers
3=FTE Cert Pers
4=FTE Clsf Pers
5=Total FTE Pers
6=# of Schools
7=Sq Ft Bldg
11=# of Mtgs/Yr
12=# Wrk Stations
13=# of Babies
14=# of Credits
15=# Pupil Hrs/Day
21=# of Meals/Day
22=FTE Pupils
25=# Identfd Pupils
45=# of Sch Dist

**UNITS OF MEASURE FOR RESOURCES:

PERSONNEL:
101=Annual FTE
102=Hours/Year
103=Days/Year
104=Weeks/Year
105=Months/Year
109=Spec Service

EXPENDABLES:
201=Dollars/Year
202=Quantity/Year

CAPITAL (life >= 2 yrs):
301=Startup Cost
302=Startup Qty

24

[illegible]

[illegible]

Rec
Type

1 [illegible]

5 [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0									
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[illegible]

[illegible]

OCM WORKSHEET A - 6

SCHOOL ADMINISTRATION AND SUPPORT SERVICES

Rec Type		SERVICE DESCRIPTION	CATEGORY CODE	SERVICE CODE	SERVICE NAME
1	DISTRICT SERVICE				

		UNITS OF MEASURE*	SIZE GROUP 1	SIZE GROUP 2	SIZE GROUP 3	SIZE GROUP 4
2	SERVICE UNIT SIZE					

	RESOURCE REQUIREMENTS: DESCRIPTION	OBJECT CODE	UNITS OF MEASURE**	SIZE GROUP 1	SIZE GROUP 2	SIZE GROUP 3	SIZE GROUP 4	UNIT COST	FOR CAPITAL COS OF REPLCMNT LIFE	RATE
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										

*UNITS OF MEASURE FOR PROGRAM SIZE:
1=# of Pupils
2=FTE Teachers
3=FTE Cert Pers
4=FTE Clsf Pers
5=Total FTE Pers
6=# of Schools
7=Sq Ft Bldg
11=# of Rms/Cls
12=# Wrk Stations
13=# of Seblms
14=# of Credits
15=# Pupil Hrs/Day
21=# of Meals/Day
22=FTE Pupils
25=# Identfd Pupils
45=# of Sch Dist

**UNITS OF MEASURE FOR RESOURCES:
PERSONNEL:
101=Annual FTE
102=Hours/Year
103=Days/Year
104=Weeks/Year
105=Months/Year
106=Spec Service
EXPENDABLES:
201=Dollars/Year
202=Quantity/Year
CAPITOL (Life >= 2 yrs):
301=Startup Cost
302=Startup Qty

SAMPLE COPIES OF THE RCM WORKSHEET 1

EXAMPLE 1. Instructional Programs and Related Services: Regular Elementary Programs

RCM WORKSHEET 1

LISTS OF PROGRAMS AND SERVICES

CLASS OF DELIVERY SYSTEM:

SEQ. NO.	CATEGORIES OF PROG/SERV (CAT)	ORGNZTNL SETTING (ORG)	LOCATIONAL SETTING (LOC)	DELIVERY MODE (DEL)	SITES SERVED (SIT)	CONTENT (CON)	STUDENT CLASSIF. (STU)	AGE/GRADE LVL GROUPING (AGE/GRD)	TIME DIMENSION TERM,HRS/WK (TIM)	SIZE GROUPING (SIZ)

EXAMPLE 2. Instructional Programs and Related Services: Regular High School Programs

CLASS OF DELIVERY SYSTEM:

SEQ. NO.	CATEGORIES OF PROG/SERV (CAT)	ORGNZTNL SETTING (ORG)	LOCATIONAL SETTING (LOC)	DELIVERY MODE (DEL)	SITES SERVED (SIT)	CONTENT (CON)	STUDENT CLASSIF. (STU)	AGE/GRADE LVL GROUPING (AGE/GRD)	TIME DIMENSION (TIM)	SIZE GROUPING (SIZ)

EXAMPLE 3. School Administration and Support Services.

CLASS OF DELIVERY SYSTEM:

SEQ. NO.	CATEGORIES OF PROG/SERV (CAT)	ORGNZTNL SETTING (ORG)	LOCATIONAL SETTING (LOC)	DELIVERY MODE (DEL)	SITES SERVED (SIT)	CONTENT (CON)	STUDENT CLASSIF. (STU)	AGE/GRADE LVL GROUPING (AGE/GRD)	TIME DIMENSION (TIM)	SIZE GROUPING (SIZ)

253

RCM WORKSHEET 1.1

HEADER RECORDS FOR RCM WORKSHEETS A-1,2,3,4

CLASS OF DELIVERY SYSTEM:_____ CODE:_____

Rec Type	PROGRAM CATEGORY (For CLASS=1 ONLY): DESCRIPTION	CATEGORY CODE	NAME
0			

Rec Type	PROGRAMS AND SERVICES: DESCRIPTION	CATEGORY CODE	PROGRAM OR SERVICE CODE	NAME	UNITS OF MEASUREMENT
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					
1					

RCM WORKSHEET 2

LIST OF RESOURCES

OBJECT OR RESOURCE CODE	RESOURCE DESCRIPTION	RESOURCE NAME	UNITS OF MEASURE	COST INDEX CODE	RESOURCE CLASS	UNIT PRICE	FOR CAPITAL RESOURCES ONLY		ROUNDING UNITS
							YEARS OF LIFE	REPLCMNT RATE	

255

RCM WORKSHEET 3

SALARY SCHEDULE INFORMATION

CONTACT PERSON:_____ PHONE:_____

SALARY SCHEDULE FOR: _____ SCHEDULE CODE:_____ PAY UNIT CODE<*>: _____
(Class of employees covered)

Enter STEP CODES at the beginning of each row and the CLASS CODES at the head of each column. Then enter the PAY RATES corresponding to each STEP/CLASS CODE combination in the blank cells.

	CLASS CODES									
STEP CODE	CLASS 1: ---	CLASS 2: ---	CLASS 3: ---	CLASS 4: ---	CLASS 5: ---	CLASS 6: ---	CLASS 7: ---	CLASS 8: ---	CLASS 9: ---	CLASS 10: ---

*The codes for the appropriate PAY UNITS are: A=annual pay rate, M=monthly pay rate, D=daily pay rate, H=hourly pay rate, S=special pay rate (e.g., stipend).

CONTACT PERSON:_____ PHONE:_____

RCM WORKSHEET 4

BENEFIT PACKAGES AND CONTRIBUTION RATES

BENEFIT CATEGORY CODE	BENEFIT PACKAGE CODE	RATE OF DISTRICT CONTRIBUTION TO BENEFITS	TYPE CODE A=$/Employee R=Ratio to Salary	DESCRIPTION OF PACKAGE

FIGURE : SAMPLE COPY OF RCM WORKSHEET 7

RCM WORKSHEET 7

SIMULATION PARAMETERS

REC TYPE	SEQ NO.	NAME (DEC$)	PARAMETER VALUE	PARAMETER LABEL
1	001	STATE	0	1=STATE APPLICATION, 0=LOCAL APPLICATION

This parameter designates whether the RCM is being used to support a state or local application of the RCM. The primary impact is to create an observation in the output dataset DISTOUT that summarizes state level cost and quantity information. Possible values are:

1= the RCM is being used to support the SFPM (the State Finance and Planning Model

0= if RCM is being used as Local Planning and Budgeting Model

1	002	ENBUDSET	1	1=PRODUCE PROGRAM BUDGET REPORTS,0=NO

This parameter designates whether or not the budget report dataset BUDOUT#1(BUDSET#1) is to be produced. This dataset reports cost by object code for each program or service by school and district. Possible values are:

1= Create Budget Report files,

0= Do not create Budget report files.

For STATE applications, this parameter would most likely be set to 0. For LOCAL applications, this parameter may be set to 0 or 1 depending on the level of detail desired in the output.

1	003	UNITOBS	0	UNIT OF OBS: 1=DISTRICT, 0=SCHOOL

This parameter designates the unit of observation for the enrollment dataset DISTRAW(ENRINDS).

1= the unit of observation is a DISTRICT

0= the unit of observation is a SCHOOL.

1	004	SUM_DIST	1	1=SUM SCH ENR TO DIST LEVEL, 0=NO

This parameter designates whether or not the RCM computer program should create a district level observation within the enrollment and service level dataset DISTRAW(ENRINDS). This district level observation will contain the sums of enrollments and program units. Possible values are:

1= a district level observation will be created by the RCM program

0= a district level observation already exists and no summation is required.

This parameter should be set to '0' if UNITOBS=1. If UNITOBS=0, then SUM_DIST may be set to '1' or '0' as described below.

SAMPLE COPY OF RDM WORKSHEET 7 continued

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	011	CASE_ID	23	CASE ID CODES:1=CO_ID,2=DIST_ID,3=SCH_ID

This parameter designates the combination of ID CODES used in the RDM input and output datasets to identify the observations. Possible combinations of values for this parameter are:1, 2, 3, 12, 13, 23, 123. These codes are defined as follows:

1=CO_ID (County ID).
2=DIST_ID (District ID).
3=SCH_ID (school ID).

The user may record any combination to identify the ID codes used in the input/output datasets.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	012	CASENAME	23	CASE NAMES: 1=COUNTY,2=DISTRICT,3=SCHOOL

This parameter designates the combination of NAMES used in the RDM input and output datasets to identify the observations. Possible combinations of values for this parameter are:1, 2, 3, 12, 13, 23, 123. These codes are defined as follows:

1=COUNTY NAME.
2=DISTRICT NAME.
3=SCHOOL NAME.

The user may record any combination to identify the NAMES used in the input/output datasets.

PARAMETERS FOR UTILIZATION OF WORKSHEETS:

The next three parameters allow the user the option of not using one or more of the ADMINISTRATION AND SUPPORT worksheets. At a minimum, the RDM computer program requires that the RDM worksheet A-1 must be completed.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	021	WSA2COMP	1	1=RDM WRKSHT A-2 IS FILLED OUT, 0=NO

1= at least one RDM worksheet A-2 has been filled out.
0= RDM worksheet A-2 is not used.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	022	WSA3COMP	1	1=RDM WRKSHT A-3 IS FILLED OUT, 0=NO

1= at least one RDM worksheet A-3 has been filled out.
0= RDM worksheet A-3 is not used.

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
1	023	WSA4COMP	1	1=RDM WRKSHT A-4 IS FILLED OUT, 0=NO

1= at least one RDM worksheet A-4 has been filled out.
0= RDM worksheet A-4 is not used.

SAMPLE COPY OF RCM WORKSHEET 7 continued

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

DETERMINATION OF THE NUMBER OF PROGRAM AND SERVICE UNITS:
The next parameters allow the user a series of options related to the way in which the program determines the number of program and service units that underlie the cost calculations in the RCM.

1	031	DOUNIT_1	0	1=USE ACTUAL PROG UNITS, 0=COMPUTE UNITS

This parameter designates whether ACTUAL or COMPUTED program or service units will be used to determine the costs of INSTRUCTIONAL PROGRAMS AND RELATED SERVICES specified on the RCM DELIVERY SYSTEM WORKSHEETS A-1.
1= ACTUAL no. of Program or service units are to be used to determine total resources for instructional programs & related services. These units are recorded in DISTRAW(ENRINDX).
0= no. of program and service units is COMPUTED within the RCM program and is based on enrollments recorded in DISTRAW(ENRINDX).

1	032	DOUNIT_S	0	1=USE ACTUAL SCH UNITS, 0=COMPUTE UNITS

This parameter designates whether ACTUAL or COMPUTED numbers of schools or school service units are used to determine the costs of SCHOOL ADMINISTRATION AND SUPPORT SERVICES specified on RCM DELIVERY SYSTEM WORKSHEET A-2.
1= actual no. of schools is used to determine sch admin & supp res.
0= no. of schools is determined within RCM simulation

1	033	DOIUMIN	1	1=USE MINIMUM UNITS REQUIRED, 0=NO

This parameter switches on and off the utilization of the MINIMUM UNITS REQUIRED parameter set on RCM DELIVERY SYSTEM WORKSHEET A-1. This parameter allows the user to eliminate programs from district budgets that do not enroll sufficient numbers of students to fully utilize program resources.
1= eliminate program units if they do not exceed the minimum required for funding.
0= place no restrictions on minimum program units for funding.

1	036	PRDOUDF2	0.25	ROUNDING FACTOR FOR CASELOAD PROG UNITS

This parameter designates the rounding factor used for the computation of the number of program or service units for the Instructional Programs and Related Services specified on the RCM DELIVERY SYSTEM WORKSHEETS A-1. This rounding factor applies exclusively to programs or services specified as caseloads. If this number is set to 0.25, caseload units will be rounded to the nearest 0.25 units. (Programs or services specified on the A-1 worksheet as classes or courses are costed out only in full units.)

3

SAMPLE COPY OF RCM WORKSHEET 7 continued

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
				ROUNDING FACTORS FOR RESOURCES:
				The next eight parameters allow the user to set rounding factors for certain categories of resources. Unless these rounding factors are overriden in the RESOURCE LIST, they are used to round off resources specified on the RCM DELIVERY SYSTEM WORKSHEETS to the nearest prespecified values set below.
1	041	RNDF_FTE	0.20	DEFAULT ROUNDING FACTOR, FTE PERSONNEL
				Rounding factors used for personnel specified in terms of Full-Time-Equivalents
1	042	RNDF_HRS	0.50	DEFAULT ROUNDING FACTOR, PERS HRS/YR
				Rounding factors used for personnel specified in terms of Hours per year.
1	043	RNDF_DAY	0.50	DEFAULT ROUNDING FACTOR, PERS DAYS/YR
				Rounding factors used for personnel specified in terms of Days per year.
1	044	RNDF_WKS	0.50	DEFAULT ROUNDING FACTOR, PERS WEEKS/YR
				Rounding factors used for personnel specified in terms of weeks per year.
1	045	RNDF_MOS	0.50	DEFAULT ROUNDING FACTOR, PERS MOS./YR
				Rounding factors used for personnel specified in terms of Months per year.
1	046	RNDF_PER	1.00	DEFAULT ROUNDING FACTOR, PERS STIPENDS
				Rounding factors used for personnel specified in any other unit of measurement (e.g., stipends).
1	047	RNDF_QTY	1.00	DEFAULT ROUNDING FACTOR, $ OR QTY ITEMS
				Rounding factors used for expenditure and quantity items
1	048	RNDF_SQF	100	DEFAULT ROUNDING FACTOR,SQ FT BLDG SPACE
				Rounding factors used for building space.
				RESOURCE COST ADJUSTMENTS
1	051	DOINDEX	0	1=USE RESOURCE COST INDICES, 0=NO
				This parameter allows the user to include the resource cost indices in the simulation run. These indices are stored in D:\TRAX\ENVIND\ and are primarily used in STATE level applications (i.e., SFPM). For local applications DOINDEX is generally set to '0'.
				1= resource cost indices ARE to be used in the simulation run
				0= resource cost indices are NOT used in the simulation run.

SAMPLE COPY OF RCM WORKSHEET 7 continued

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

SETTING THE COSTS OF CAPITAL

The next parameters provide a way for the user to adjust the assumptions on which capital cost calculations are based.

1 061 DOCAPADJ 0 1=ADJ CAPTL FOR ACTUAL UTILIZATION ,0=NO

This parameter allows the user to switch on and off the adjustment of allocations of capital resources to reflect the actual number of program units sharing facilities within a school or district. This parameter is used in conjunction with the cell labeled "CAPITAL ADJUSTMENT" on the RCM DELIVERY SYSTEM WORKSHEET A-1.

1=adjust capital equipment allocation to reflect actual number of program units sharing facilities within the school or district.

0=make no adjustment in capital equipment allocation for sharing.

1 062 REPL_DEF 0.0 DEFAULT VALUE, CAPITAL REPLACEMENT RATE

This parameter allows the user to set the default value for annual replacement rate (due to damage or loss) for capital equipment. This default value is used only if no specific value has been assigned in the Resource List, i.e., RCM831(RESLIST).

1 063 LIFE_DEF 7 DEFAULT VALUE, CAPITAL YEARS OF LIFE

This parameter allows the user to set the default value for the life of capital equipment. This default value is used only if no specific value has been assigned in the Resource List, i.e., RCM831(RESLIST).

ADJUSTMENTS FOR VARIATIONS IN TEACHER COURSELOADS:

The following two parameters are used in conjunction to allow the user to adjust teacher time allocations to reflect differences in course load policies across local districts. It is also used in conjunction with the variable CRSLD which is included among the variables in the enrollment dataset DISTRAW(ENRINDX). These parameters and the corresponding variable are used exclusively when the RCM is being used to support the STATE level model (i.e., the SFPM).

1 071 CRSLDPAR 5 TCHR COURSE LOAD IN DEPT COURSES,A-1

This parameter designates the course load assumed for teaching personnel in departmentalized courses specified on the RCM DELIVERY SYSTEM WORKSHEET A-1. A value of 5 means teachers are responsible for five annual courses per year.

1 072 DOCRSLD 0 1=ADJ FOR DIFF CRSLD POLICIES, 0=NO

This parameter simply switches on and off the courseload adjustment.

1= teacher & aide time IS to be adjusted for different course load policies across districts.

0= teacher & aide time IS NOT adjusted for different course load policies.

SAMPLE COPY OF RCM WORKSHEET 7 continued

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
				INFLATIONARY ADJUSTMENTS FOR RESOURCE COSTS: The following series of parameters allow the user to include inflationary adjustments in the unit prices of various classes of resources.
1	081	INFLCERT	0	INFLATIONARY ADJ, CERTIFIED SALARIES
				Inflation rate for certified salaries.
1	082	INFLCLSF	0	INFLATIONARY ADJ, CLASSIFIED SALARIES
				Inflation rate for classified personnel salaries
1	083	INFLEXPD	0	INFLATIONARY ADJ, EXPENDABLE ITEMS
				Inflation rate for expendable items (e.g., supplies, services)
1	084	INFLENGY	0	INFLATIONARY ADJ, ENERGY RESOURCES
				Inflation rate for energy services.
1	085	INFLCPTL	0	INFLATIONARY ADJ, CAPITAL RESOURCES
				Inflation rate for capital resources
				IDENTIFICATION OF THE RESOURCE LIST
1	091	RESL_NO	2	
				This parameter allows the user to designate which of a variety of alternative RESOURCE LISTS are to be used in the simulation run. Possible values include 0, 1, or 2 to identify the specific RESOURCE LIST dataset (i.e., RESLIST0, RESLIST1, or RESLIST2) that may be stored in the RCM data library DISTRAW.

SAMPLE COPY OF RCM WORKSHEET 7 continued

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

UTILIZATION OF THE EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE:
The following parameters determine whether or not and the way in which the EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION file will be utilized within the RCM simulation run. This file is primarily utilized in LOCAL applications of the RCM, although there may be circumstances in which it may be of value in STATE applications as well.

1 101 CRPERC 1 1=CREATE ASGNFILE (EXEC CRPERC), 0=NO

This parameter allows the user to switch on and off the creation of the EMPLOYEE ASSIGNMENT AND PAYROLL INFORMATION FILE, i.e., DISTRAW(ASGNFILE).

1= Read and save the ASSIGNMENT FILE for use in the simulation.
0= Do not create the ASSIGNMENT FILE for use in the simulation.

1 102 USESCHED 1 1=USE SAL SCHED,0=SALARY ON ASGNFILE

This parameter is only used when CRPERC is set to '1' (i.e., when the ASSIGNMENT FILE is being utilized. It allows the user to designate the source of salary information for personnel.

1= Use the salary schedule file, i.e., DISTRAW(SALSCHED) as the source for personnel salary information.
0= Use pre-existing salary data included in the ASSIGNMENT FILE as the source for personnel salary information.

1 103 ADD_PERC 1 SOURCE OF PERS COST:1=ASGNFILE,0=RESLIST

This parameter allows the user to determine whether the ASSIGNMENT FILE or the RESOURCE LIST should be used as the basis for the calculation of personnel salary and benefit costs.

1= Use the ASSIGNMENT FILE, i.e., DISTRAW(ENRINDX) as the basis for personnel costs calculations.
0= Use the RESOURCE LIST, DISTRAW(RESLISTi) as the basis for personnel cost calculations.

SAMPLE COPY OF RCM WORKSHEET 7 continued

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL

The next four parameters allow the user to determine the variables used to sort and match the personnel salary and benefit data derived from the ASSIGNMENT FILE to the RCM DELIVERY SYSTEM WORKSHEETS A-1, 2, 3, and 4. Personnel salaries and benefits may be matched by OBJECT CODES or by OBJECT CODES within CATEGORY and/or SERVICE CODES. If the user desires salaries and benefits to be calculated at the finest level of detail, then these files should be sorted by CATEGORY, SERVICE as well as OBJECT CODES. This would have the effect, for example, of computing average teacher salaries and benefits by program. If simply average teacher salaries and benefits is desired with regard to the program in which a teacher serves, then the personnel cost datasets should be sorted and matched by OBJECT CODES alone.

1 111 BYCODEP1 1 A-1 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-1.

0= personnel costs are calculated by OBJECT CODES (i.e., IRESCODE IRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., PASCCODE IRESCODE IRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., PASCCODE IRS_CODE IRESCODE IRESUNIT)

1 112 BYCODEP2 1 A-2 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-2.

0= personnel costs are calculated by OBJECT CODES (i.e., SRESCODE SRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., SASCCODE SRESCODE SRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., SASCCODE SASSCODE SRESCODE SRESUNIT)

1 113 BYCODEP3 1 A-3 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-3.

0= personnel costs are calculated by OBJECT CODES (i.e., PRESCODE PRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., PASCCODE PRESCODE PRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., PASCCODE PASSCODE PRESCODE PRESUNIT)

1 114 BYCODEP4 1 A-4 PERS COSTS BY 0=OBJ,1=+CAT,2=+SERV CODES

This parameter pertains to the computation of average personnel costs for RCM DELIVERY SYSTEM WORKSHEET A-4.

0= personnel costs are calculated by OBJECT CODES (i.e., DRESCODE DRESUNIT),

1= personnel costs are calculated by OBJECT CODES within CATEGORY CODES (i.e., DASCCODE DRESCODE DRESUNIT),

2= personnel costs are calculated by OBJECT CODES within CATEGORY and SERVICE CODES (i.e., DASCCODE DASSCODE DRESCODE DRESUNIT)

SAMPLE COPY OF RCM WORKSHEET 7 continued

REC TYPE	SEQ NO.	NAME (DESC)	PARAMETER VALUE	PARAMETER LABEL
		PRINT PARAMETERS		
1	191	LEN_NAME	20	LENGTH OF CASE NAME IN PRINT PROGRAMS
		Number of columns desired to print the county, district, and school names in the print programs.		
1	192	OBS_LIST		1=PRINT SUBSET OF OBSERVATIONS, 0=PRINT ALL OBS
		This parameter allows the user to subset the list of districts to be included in the RCM output reports. 1= the list of observations to be printed is to be subset and the subset list of district ID codes is in RCMRAWyy(OBS_LIST), 0= the full list of observations is to be printed.		
1	193	PR_DIST		1=PRINTS DISTRICT TOTALS ONLY, 0=PRINT ALL OBS
		This parameter allows the user to print only the district totals in the RCM output reports. This parameter applies only when UNITOBS=0. 1= print only the observations containing the district totals in the RCM report datasets to be stored in RCMOUTzz, 0= print both school and district observations in the RCM reports.		
		ADJUSTMENT OF PROGRAM AND SERVICE UNIT SIZES		
1	500	DCLSSZ	0	PROPORTIONATE CHANGE IN CLASS SIZES, ALL PROGRAMS
		the proportionate change in class sizes across all programs desired for this simulation.		
1	600	DAIDES	0	PROPORTIONATE CHANGE IN AIDE TIME, ALL PROGRAMS
		the proportionate change in the allocation of aide time across all program categories for this simulation.		
1	700	DSCHSZ	0	PROPORTIONATE CHANGE IN SCHOOL SIZE, ALL SCH TYPES
		the proportionate change in school size desired for this simulation		